WILDLIFE REVIEW

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UNITED STATES DEPARTMENT OF THE INTERIOR
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BUREAU OF SPORT FISHERIES AND WILDLIFE

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WILDLIFE REVIEW

An abstracting service for wildlife management
Issued for the information of cooperators
by the Bureau of Sport Fisheries and Wildlife
Fish and Wildlife Service
UNITED STATES DEPARTMENT OF THE INTERIOR

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor,
and Paul A. Stewart, assistant editor.

SOILS

Dideriksen, Raymond I., and others. SOIL SURVEY OF ADAMS COUNTY, IOWA. SCS, Ser. 1958, no. 26. i + 97 p., 10 figs. + folded maps based on aerial photos and bound in. May 1963. Sold by Supt. Documents. WR 111: 2

Gilbert, Boyd D., and others. SOIL SURVEY OF WASHINGTON COUNTY, MARYLAND. SCS, Ser. 1959, no. 17. i + 136 p., 1 fig. + folded maps based on aerial photos and bound in. Oct. 1962. Sold by Supt. Documents. WR 111: 2

Green, Francis L., and others. SOIL SURVEY OF LEE COUNTY, SOUTH CAROLINA. SCS, Ser. 1959, no. 24. i + 85 p., 12 figs. + single-fold maps based on aerial photos and bound in. Mar. 1963. Sold by Supt. Documents. WR 111: 2

Hersh, Donald M., and others. SOIL SURVEY OF YORK COUNTY, PENNSYLVANIA. SCS, Ser. 1959, no. 23. i + 159 p., 5 figs. + folded maps based on aerial photos and bound in. May 1963. Sold by Supt. Documents. WR 111: 2
Includes a section on wildlife.

Hutton, F. Z., Sr., and others. SOIL SURVEY OF DORCHESTER COUNTY, MARYLAND. SCS, Ser. 1959, no. 26. i + 66 p., 9 figs. + folded maps based on aerial photos and bound in. Aug. 1963. Sold by Supt. Documents. WR 111: 2
Includes a section on wildlife.

Robertson, Stanley M., and others. SOIL SURVEY OF HABERSHAM COUNTY, GEORGIA. SCS, Ser. 1959, no. 27. i + 84 p., 7 figs. + single-fold maps based on aerial photos and bound in. July 1963. Sold by Supt. Documents. WR 111: 2
Includes a section on wildlife.

White, E. M., and others. SOIL SURVEY OF HAND COUNTY, SOUTH DAKOTA. SCS, Ser. 1956, no. 21. i + 112 p., 19 figs. + single-fold maps based on aerial photos and bound in. Apr. 1963. Sold by Supt. Documents. WR 111: 2

Woods, John C., and others. SOIL SURVEY OF TWIGGS COUNTY, GEORGIA. SCS, Ser. 1960, no. 4. i + 64 p., 12 figs. + single-fold maps based on aerial photos and bound in. May 1963. Sold by Supt. Documents. WR 111: 2
Includes a section on wildlife.

CONSERVATION EDUCATION

Osborn, Katherine H., Ray A. Yoder, and William I. West. FORESTRY THESES ACCEPTED BY COLLEGES AND UNIVERSITIES IN THE UNITED STATES / SUPPLEMENT JULY 1961-JUNE 1962 INCLUDING ADDITIONS FOR 1955-JUNE 1961. Forest Sci. 9(3): 372-384. Sept. 1963. WR 111: 2
Author and subject indices are appended to this list of 268 forestry theses (arranged by institution).

Smith, Anne M., Robert W. Wellwood, and Leonid Valg. CANADIAN THESES IN FORESTRY AND RELATED SUBJECT FIELDS 1913-1962. Forestry Chronicle 38(3). Sept. 1962. [From Forest Sci. 9(3): 384. 1963.] WR 111: 2
"Lists 388 theses for the period covered. Author and subject indexes are included."

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Shafer, Elwood L., Jr. (U. S. Forest Serv., Upper Darby, Pa.) THE TWIG-COUNT METHOD FOR MEASURING HARDWOOD DEER BROWSE. J. Wildl. Mgmt. 27(3): 428-437, 5 figs. July 1963. WR 111: 2
Results of three methods of determining the weight of woody deer (Odocoileus virginianus) browse were compared in a recent study in the Pocono Mountains of Pa. The three methods were twig-count, weight-estimation, and clip-and-weigh.

There were no significant differences in accuracy among the three methods for determining the weight of browse material. However, the average time required per plot for each method was as follows: (1) weight-estimation--3.2 minutes, (2) twig-count--4.6 minutes, (3) clip-and-weigh--21.8 minutes.--From abstr.

Wood, R. D. (Univ. R. I., Kingston.) ADAPTING SCUBA TO AQUATIC PLANT ECOLOGY. Ecology 44(2): 416-419, 1 fig. Spring 1963. WR 111: 3

Conclusions: Terrestrial ecological methods can be adapted for underwater use by SCUBA-equipped workers. However, mapping by divers requires that a pattern of stakes be set out to provide reference points. The underwater photographic survey was not perfected as a method, difficulties include interference from turbidity and the lack of contrast in subjects. In parallel sampling by direct quadrat count and by grapnel hauls, there was a lower recovery by the grapnel. In parallel sampling, the grapnel may show altered proportions of individual species and a selective retrieval of certain species over others. Quantitative study of benthic vegetation is better accomplished by SCUBA teams than by boat teams. SCUBA methods are to be preferred where continued records of undisturbed conditions are desired.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Choate, Thomas N., and Charlu M. Choate. (Mont. State Univ., Missoula.) LIFE ABOVE TIMBERLINE / A LOOK AT GLACIER PARK'S ALPINE ZONE. Naturalist 14 (2): 26-32, illus. Summer 1963. WR 111: 3

An excellent popular article about ecology above timberline.

Rogacheva, E. V. [A SKETCH OF THE MAMMALS AND BIRDS OF THE TAIGA AND FOREST-TUNDRA OF THE YENISEI VALLEY.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 197-207. 1959. [From Biol. Abstr. 41(2), 1963, from Referat. Zhur., Biol., 1961, no. 2D18. Transl. of Russian abstr.] WR 111: 3

WILDLIFE--NATURAL AREAS & REFUGES

Fijalkowski, D., and K. Izdebski. [ON THE CREATION OF THE ZWIERZYNIEC NATIONAL PARK.] Sylwan (Warsaw) 103(9): 1-13, 3 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English and Russian summ.] WR 111: 3

Description of plant associations and rare species of flora and fauna.

U. S. Fish & Wildlife Service. REFUGE LEAFLETS. WR 111: 3

Four series of these leaflets are being issued for use of visitors to refuges. General Series begins with RL-1, Bird List Series with RL-101, Mammal Series with RL-301, and Historical Series with RL-401 (renumbered from RL-201). The present listing is intended to bring up to date, through July 1963, the lists of earlier numbers presented in WR 78: 11-12, WR 85: 8, WR 92: 13-15, and WR 99: 8-9.

General Series.--Each provides general information about a refuge and has a simple map and sketches.

RL 69.	Arrowwood	N. Dak.	1960	4p.
70.	Lacassine	La.	"	"
71.	Tewaukon	N. Dak.	"	"
72.	Union Slough	Iowa	"	"
73.	Lake Ilo	N. Dak.	"	2p.
74.	Salt Plains	Okla.	"	4p.
75.	McKay Creek	Oreg.	"	2p.
76.	Cold Springs	Oreg.	"	"
77.	Waubay	S. Dak.	"	4p.

General Series, Revised issues.

RL 3-R.	Mattamuskeet	N.C.	1960	4p.
6-R.	Pea Island	N.C.	1963	"

Bird List Series.--Each has a little information about the refuge and contains a list of its birds, with indications of seasonal occurrence and relative abundance. Each consists of 3-4 processed pages.

RL 200.	McNary	Wash.	1961
202.	Columbia	Wash.	"
203.	Minidoka	Idaho	"
204.	Quivira	Kans.	1962
205.	Yazoo	Miss.	"
206.	Fish Springs	Utah	"
207.	Merced	Calif.	"

Bird List Series, Revised issues.

RL 119-R.	Waubay	S. Dak.	1963
137-R.	Sabine	La.	"
148-R.	Aleutian Islands	Alaska	"
152-R.	Medicine Lake	Mont.	1961
155-R.	Squaw Creek	Mo.	1962
157-R.	Rice Lake	Minn.	1961
159-R.	Imperial	Ariz.-Calif.	"
163-R.	Deer Flat	Idaho	"
167-R.	National Bison Range	Mont.	1963
168-R.	Monomoy	Mass.	1961
170-R.	Noxubee	Miss.	1962
171-R.	Muleshoe	Tex.	1961
172-R.	Parker River	Mass.	"
176-R.	National Elk	Wyo.	1962
178-R.	Monte Vista	Colo.	1961
179-R.	Mingo	Mo.	"
180-R.	Lacreek	S. Dak.	1960
182-R.	Nine-Pipe and Pablo	Mont.	1961
184-R.	Hart Mountain	Oreg.	"
186-R.	Salton Sea	Calif.	1962
189-R.	Swan Lake	Mo.	1961
190-R.	Red Rock Lakes	Mont.	1963

Mammal Series.--Each has some general information about the refuge, tells where some of the conspicuous mammals may be seen, tells what mammals no longer occur on the refuge, and gives common and scientific names of mammalian species now known from the refuge.

RL 302.	National Bison Range	Mont.	1961	4p.
303.	Okefenokee	Fla.-Ga.	"	"
304.	National Elk	Wyo.	1962	"
305.	San Andres	N. Mex.	"	"
306.	Aransas	Tex.	"	"
307.	Wichita Mountains	Okla.	"	"
308.	Salt Plains	Okla.	"	3p.
309.	Desert Game Range	Nev.	"	4p.
310.	Kofa Game Range	Ariz.	1963	"
312.	Santa Ana	Tex.	"	"

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

Uspenskii, S. M. [STATUS OF RESERVES OF GAME ANIMALS AND RARE SPECIES OF FAUNA ON WRANGEL ISLAND AND IN NORTH EAST YAKUTIYA. PROBLEMS OF CONSERVING THEM.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 67(2): 146-147. 1962. [From Biol. Abstr. 42(1), 1963. Transl. of Russian abstr.] WR 111: 5

The author describes plans for preservation of 400,000-500,000 white geese and 150-200 polar bears (Ursus maritimus) on Wrangel Island and the following spp. in the vicinity of the Yano-Indigirka depression: Anser albifrons, Branta bernicla, Somateria mollissima, white geese, Rhodostethia rosea, Xema sabini, and also wild reindeer (Cervus tarandus).--From abstr.

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Stickel, David W. (Southern Ill. Univ., Carbondale.) INTERSPECIFIC RELATIONS AMONG RED-BELLIED AND HAIRY WOODPECKERS AND A FLYING SQUIRREL. Wilson Bull. 75(2): 203-204. June 1963. WR 111: 5

The three species simultaneously occupied nesting cavities in a 10-foot portion of a tree trunk.

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Bernard, R. F. STUDIES ON THE EFFECTS OF DDT ON BIRDS. Mich. State Univ. Agr. & Appl. Sci. Mus. P. Biol. Ser. 2(3): 159-191. Feb. 1963. [From Bibliog. Agr. 27(6), 1963.] WR 111: 5

Brown, A. W. A. (Univ. Western Ontario, London, Ontario, Canada.) EFFECT OF INSECTICIDE ON WILDLIFE. [N.Y.] Conservationist 17(3): 8-11, 40-41. Dec.-Jan., 1962-63. WR 111: 5

Prepared by an entomologist who has authored 2 books on chemical control of insects. An unbiased review of the effects of insecticides on wildlife is presented in this popular article.

Erickson, Ray C. (US F&WS, Washington 25, D.C.) OIL VS. WILDLIFE. Md. Conserv. 40(2): 2-10, illus. Mar.-Apr. 1963. WR 111: 5

Adapted from a paper presented at the Third Seminar of Biological Problems of Water Pollution held in Cincinnati, Ohio, in Aug. 1962. The following program of action was recommended: (1) surveillance of sites of oil pollution and stricter enforcement of laws relating to oil pollution; (2) study behavior of birds around oil spills and the possible use of frightening devices; (3) develop or improve methods for decontamination of oil-contaminated birds; (4) study effects of oil pollution on plants and animals important to migratory birds; and (5) develop methods for reconditioning polluted habitats.

George, John L., editor. PESTICIDE-WILDLIFE STUDIES: A REVIEW OF FISH AND WILDLIFE SERVICE INVESTIGATIONS DURING 1961 AND 1962. US F&WS, Circ. 167. ix + 109 p. June 1963. WR 111: 5

This report summarizes research findings for 1961 and 1962. Reports published by Service personnel during 1961 and 1962 are reviewed, and progress is reported for research studies underway. Certain publications appearing in 1961 or 1962 that were prepared by other scientists are reviewed also. Separate accounts summarize the commercial fisheries investigations by the Division of Biological Research of the Bureau of Commercial Fisheries and Wildlife; and wildlife investigations by the Denver and Patuxent Wildlife Research Centers, both of the Branch of Wildlife Research of the Bureau of Sport Fisheries and Wildlife. Also, wildlife investigations of provinces, states, universities, and the cooperative wildlife research units of the Branch of Wildlife Research are briefly summarized. Recommendations are made for the use of pesticides that will cause minimum damage to wildlife.--From foreword.

Nowinski, M. [FURTHER REMARKS ON THE DANGER OF THE USE OF CHEMICALS TO HABITATS, FOOD AND MAN.] Ekologia Polska (Warsaw) Ser. B, 5(2): 147-162. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 6

The danger threatening man, resulting from the increase in the use of chemicals in the food industry, medicine, zootechnics, agriculture, pomology and forestry, is shown in this article. The article includes a discussion of the degenerative action of mineral salts on the soil and the destructive effect of pesticides on the biocenosis. The reactions caused by chemicals in organisms and biocenoses are chain reactions and their results cannot be foreseen.

President's Science Advisory Committee. USE OF PESTICIDES / A REPORT OF THE PRESIDENT'S SCIENCE ADVISORY COMMITTEE. The White House (Washington, D.C.). v + 25 p., 2 figs. May 1963. 15¢ from Supt. Documents. WR 111: 6

This report of the Panel on the use of pesticides of the President's Science Advisory Committee conveys some reassurance to the anxious, confused and uncertain public, which had been alerted by Rachel Carson's Silent Spring. The Panel has clearly attempted to impartially portray both the benefits and hazards so that the public can make a reasoned comparison of the costs and benefits of a continually growing pesticide program. Exposure of man, effects on man and wildlife, pest control without chemicals, and adequacy of pesticide control are some of the areas considered. Recommendations cover 4 pages and "are directed to an assessment of the levels of pesticides in man and his environment; to measures which will augment the safety of present practices; to needed research and the development of safer and more specific methods of pest control; to suggested amendments or public laws governing the use of pesticides; and to public education."

Wallace, George J., and Richard F. Bernard. (Mich. State Univ., East Lansing.) TESTS SHOW 40 SPECIES OF BIRDS POISONED BY DDT. Audubon Magazine 65(4): 198-203. July-Aug. 1963. WR 111: 6

Earlier articles in Audubon Magazine (WR 95: 19 and WR 98: 52) covered studies at Mich. State Univ. on the effect of DDT on robins. This article covers tissue analyses of about 40 additional species. Only specimens of aerial feeding birds and transients were found free of DDT. "Sparrows are able to store large reserves in fat deposits--up to 15 times the amount that would be lethal if concentrated in the brain--but quickly die of poisoning when called upon to utilize these reserves.... This suggests that migratory birds, which are known to build up fat reserves totaling 15 to 40 per cent or more of their body weight prior to migration, might die during stress periods when called upon to utilize reserves that had stored appreciable amounts of a toxic chemical."

WILDLIFE--PARASITES & DISEASES

Danielova, V. [THE AFFINITY OF MOSQUITOES TO SOME BIRDS AND MAMMALS IN A SOUTH MORAVIAN INUNDATED FOREST.] Ceskoslov. Parasitol. 9: 143-152. 1962. [From Bibliog. Agr. 27(6), 1963. In Czech with English summ.] WR 111: 6

McDiarmid, A. (Agr. Res. Council Field Sta., Compton, Berkshire, England.) DISEASES OF FREE-LIVING WILD ANIMALS. FAO Agr. Studies no. 57. ix + 119 p., 16 figs. 1962. $1.50. WR 111: 6

"This survey has been confined to a consideration of disease in free-living mammals and birds brought about by bacteria, viruses, fungi, protozoa and rickettsiae, paying particular attention to those conditions communicable to man and/or domestic animals. A small section on tumors is also included, although authentic information on this subject was difficult to obtain." [With a long, international bibliography classified by disease.]

WILDLIFE--POPULATIONS & FLUCTUATIONS

Naumov, N. P., and G. V. Nikolsky. [SOME GENERAL REGULARITIES OF THE DYNAMICS OF ANIMAL POPULATIONS.] Zool. Zhur. 41(8): 1132-1141. Aug. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 7

WILDLIFE--TECHNIQUES

Benson, Denis A. (Canadian Wildl. Serv., Ottawa 4, Ontario, Canada.) USE OF AERIAL SURVEYS BY THE CANADIAN WILDLIFE SERVICE. Canadian Wildl. Serv. Occas. Paps. no. 3. 35 p., 5 figs. 1963. WR 111: 7

A report on the use of airplanes in Canada for surveying populations of Canada goose, ruffed grouse, sandhill crane, arctic fox, coyote, walrus, beaver, elk, deer, moose, caribou, bison and muskox. The aerial survey is currently the only available method for examination of many northern populations of wildlife. The advantages and disadvantages of aerial surveys are discussed.

Fedyushin, A. V. [BIO-SURVEY AND THE MAPPING OF COLONIES OF LAND VERTEBRATES IN FORESTRY AREAS OF THE RECHITSKOE POLES'E.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 293-307. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D637. Transl. of Russian abstr.] WR 111: 7

Rich, Roger W. EVALUATION OF PHOTOGRAMMETRIC COVER TYPE MAPS FOR USE IN ESTIMATING UNDERSTORY AND GROUND COVER IN RELATION TO WILDLIFE. M.S. thesis, Univ. Mass. 1961. WR 111: 7

Sokolov, V. E. [THE USE OF THERMAL-RESISTANCE SEMICONDUCTORS FOR MEASURING THE TEMPERATURE OF ANIMAL BURROWS AND BIRD NESTS.] Zool. Zhur. 39(10): 1553-1559. 1960. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1961, no. 15D13. Transl. of Russian abstr. Original with English summ.] WR 111: 7

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Ferens, B. [BUTCHERY OF ANIMALS ON THE ARCTIC.] Ochrona Przyrody (Cracow) 26: 65-94, 14 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 7

Remarks on the life and future of arctic animals, their protection, and restoration.

WILDLIFE--ECONOMIC & OTHER VALUES

Benson, D. A. FISHING AND HUNTING IN CANADA 1961 / A REPORT ON AN ECONOMIC SURVEY. Canadian Wildl. Serv. 26 p. 1963. WR 111: 7

Of the 12,140,000 persons in Canada 14 or more years old, 790,855 (6.5%) spent some time hunting game in 1961. Approximately 10,705,000 days and $87,345,935 were spent on hunting.

Gamble, Hays Bentley. EQUATING TIMBER AND WILDLIFE VALUES AND RETURNS TO THE FARM RESOURCE BASE IN SULLIVAN COUNTY, PENNSYLVANIA. M.S. thesis, Pa. State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 7

Gamble, Hays B., and Ronald A. Bartoo. (Pa. State Univ., University Park.) ECONOMIC RETURNS FROM TIMBER AND WILDLIFE ON NORTHEASTERN FARMLANDS. J. Wildl. Mgmt. 27(3): 457-466. July 1963. WR 111: 7

A study of 18 farms in Sullivan County, Pa., in 1961, showed that net annual timber returns amounted to approximately $330 per farm. This compares with annual returns of about $257 per farm for farmers providing room and board for hunters, $42 for farmers leasing hunting rights, and $26 for those allowing

fee hunting. In Sullivan County, private landowners have little economic justification for making expenditures towards the improvement of wildlife habitat or hunting opportunity.--From abstr.

WETLANDS & WILDLIFE

Harris, Stanley W., and William H. Marshall. (Humboldt State Coll., Arcata, Calif.) ECOLOGY OF WATER-LEVEL MANIPULATIONS ON A NORTHERN MARSH. Ecology 44(2): 331-343, 3 figs. Spring 1963. WR 111: 8

Some effects on plant growth of 5 years of water drawdown are described. It is concluded that, "until present limited knowledge of the consequences of drawdown is enlarged, the technique should be used only for specific purposes with proper control and study."

FARMLAND & WILDLIFE

Gentry, John Benjamin. THE EFFECT OF OLD-FIELD SUCCESSION ON SMALL ANIMAL POPULATIONS. M.S. thesis, Univ. Ga. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 8

RANGELAND & WILDLIFE

Campbell, R. S., L. K. Halls, and H. P. Morgan. (Southern Forest Expt. Sta., New Orleans, La.) SELECTED BIBLIOGRAPHY ON SOUTHERN RANGE MANAGEMENT. U. S. Forest Serv. Res. Pap. SO-2. 62 p. 1963. WR 111: 8

"The purpose of this bibliography is to list important publications relating directly to southern ranges, the domestic livestock and wildlife produced thereon, and the management of these lands, livestock, and wildlife." Classified by subject matter, and with index of authors.

Johnson, W. M. (Rocky Mt. Forest & Range Expt. Sta., Laramie, Wyo.) VEGETATION OF HIGH-ALTITUDE RANGES IN WYOMING AS RELATED TO USE BY GAME AND DOMESTIC SHEEP. Univ. Wyo. Agr. Expt. Sta. Bull. 387. 31 p., 11 figs. June 1962. WR 111: 8

Soils derived from granite were the most extensive and least productive of the 3 soils in the region; soils formed from re-deposited volcanic material were the second in abundance, and they appeared to be productive: soils formed from sedimentary rocks were less extensive than other soils and supported a different vegetation. Seven plant communities are described, and their usefulness is appraised.--From summ.

Taylor, Jarrell Kent. THE EFFECT OF RANGE CONDITION UPON THE PRODUCTION, NUTRITIVE INTAKE, AND DIGESTIBILITY OF DESERT RANGE FORAGE IN SOUTHWESTERN UTAH. M.S. thesis, Utah State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 8

FORESTLAND--FORESTRY & ECOLOGY

Hooper, Jack Frederick. INFLUENCES OF SOILS AND DEER BROWSING ON VEGETATION FOLLOWING LOGGING REDWOOD--DOUGLAS-FIR NEAR KORBEL, HUMBOLDT COUNTY. M.S. thesis, Univ. Calif. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 8

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Boden, Wayne A. WILDLIFE RECREATION ON INDUSTRIAL FOREST LANDS. M.S. thesis, Univ. Mich. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 9

STRIPPED LAND & MISCELLANEOUS HABITATS

Funk, D. T. A REVISED BIBLIOGRAPHY OF STRIP-MINE RECLAMATION. U. S. Forest Serv. Central States Forest Expt. Sta. Misc. Release 35. 20 p. Dec. 1962. [From Bibliog. Agr. 27(5), 1963.] WR 111: 9

CONTROL OF VEGETATION WITH HERBICIDES, ETC.

Burbank, James H. (RFD 4, Jackson, Tenn.) AN EVALUATION OF THE AQUATIC PEST PLANT CONTROL PROGRAM AT REELFOOT LAKE. J. Tenn. Acad. Sci. 38(1): 42-48. Jan. 1963. WR 111: 9

Reelfoot Lake is relatively shallow, with an average water depth of 3-4 feet, and the growth of vegetation is a major problem. Herbicidal treatment was initiated in 1948. Lotus (Nelumbo lutea) has been notably reduced; giant cutgrass (Zizaniopsis miliacea) has been little changed; mulefoot (Nuphar advena) has increased since this program was put into effect.

Lopinot, A. C. (Ill. Div. Fisheries, State Office Bldg., Springfield.) AQUATIC WEEDS / THEIR IDENTIFICATION AND METHODS OF CONTROL. Div. Fisheries, Bull. no. 4. 47 p., illus. [1963]. WR 111: 9

Contains guides for identification and control treatments for pond weeds in Illinois.

MAMMALS--GENERAL

Hoffmeister, Donald F., and M. Raymond Lee. (Museum Nat. Hist., Univ. Ill., Urbana.) CLEANING MAMMALIAN SKULLS WITH AMMONIUM HYDROXIDE. J. Mammal. 44(2): 283-284. May 1963. WR 111: 9

Pokrovskii, V. S. [ORGANIZATION OF THE PROJECT OF MARKING ANIMALS IN THE USSR.] In: (Migrations of animals). Akad. Nauk SSSR (Moscow) 1: 149-160. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 10645. Transl. of Russian abstr.] WR 111: 9

The status of the animal marking project in the USSR is described; 16,993 animals of 75 species (catalog included) were marked from 1925 to 1955. Marking projects should be coordinated by the Commission for Nature Conservation of the Academy of Sciences of the USSR.

Wick, W. Q., and A. S. Landforce. MOLE AND GOPHER CONTROL. Oreg. State Univ. Ext. Bull. 804. 16 p., map. Oct. 1962. [From Bibliog. Agr. 27(5), 1963.] WR 111: 9

Wolanski, S. [PROBLEMS OF THE DISAPPEARANCE OF FAUNA.] Lowiec Polski (Warsaw) 13(1088): 2-3. 1958. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 9

Information on the rate of disappearance of species of larger mammals. The author considers suitable nutrition, ensuring of undisturbed peace in their reserves and maintenance of biological balance on the whole habitat as fundamental conditions for ensuring the development of wild animals. Examples are given indicating the interdependence of species under natural conditions.

MAMMALS--FAUNAS AND MANUALS

Baker, Rollin H. (Mich. State Univ., East Lansing.) GEOGRAPHICAL DISTRIBUTION OF TERRESTRIAL MAMMALS IN MIDDLE AMERICA. Am. Midland Nat. 70(1): 208-249. July 1963. WR 111: 10

Abstract: The 370 species of nonflying, nonmarine and noninsular mammals of Middle America (México, excluding Baja California, south through Panama) include 156 monotypic and 214 polytypic species. The distribution of these mammals is discussed with relation to their geographical affinities and their occurrence in principal areas. Major distributional barriers and areas of intergradation between subspecies in México northwestward of the Isthmus of Tehuantepec are defined.

Lavrovsky, A. A., and Z. I. Pishvanov. [THE HISTORY AND THE PRESENT STATE OF MAMMALIAN FAUNA ON THE ISLANDS OF THE CASPIAN SEA.] Zool. Zhur. 41(9): 1386-1394. Sept. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 10

Zimina, R. P. [MAMMALS OF BULGARIA, THEIR FAUNAL COMPOSITION AND PECULIARITIES OF THEIR DISTRIBUTION.] Zool. Zhur. 41(8): 1226-1237. Aug. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 10

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Andrzejewski, Roman, and Henryka Wrocławek. (Mammals Res. Inst., Białowieża, Poland.) SETTLING BY SMALL RODENTS A TERRAIN IN WHICH CATCHING OUT HAD BEEN PERFORMED. Acta Theriologica 6(9): 257-274. 20 Oct. 1962. [In English with Polish summ.] WR 111: 10

Three species, Apodemus agrarius, A. flavicollis, and Clethrionomys glareolus, were trapped in a series of studies. Data were combined for analysis. In seven studies, and different times and population densities, mice were live trapped, marked, and released on an experimental area and on a contiguous control area, then trapped and removed from the experimental area, then live trapped again on both areas. The rate of ingress to the experimental area depended on the density and trends in the surrounding population; ordinarily the influence of the removal trapping was not evident after 4 weeks, although the new level might be higher or lower than the old one. Populations also declined on the control area after removal of mice from the experimental area, more than explainable by the number of mice that were caught on the experimental area. A relatively small number of mice resident on the control area were taken on the experimental area after removal trapping. Although the control area was on only one side of the experimental area, and data are included only for mice caught enough times to be rated as residents, the conclusion that repopulation was largely by a transient segment seems sound. Two further studies (with different plans) are described also and significant points discussed.--Lucille F. Stickel.

Catana, Anthony J., Jr. (Univ. Wis., Menasha.) THE WANDERING QUARTER METHOD OF ESTIMATING POPULATION DENSITY. Ecology 44(2): 349-360, 5 figs. Spring 1963. WR 111: 10

The wandering quarter method is an adaptation of the plant-centered quarter method in which a sequence of measurements is obtained through a population by starting at a randomly selected starting point and choosing the nearest individual within a 90° angle of inclusion around a previously chosen compass azimuth, then constructing another 90° angle of inclusion with this individual as a vertex and the compass line as a bisector and measuring the distance to the nearest individual within this angle, and continuing this procedure for 25 distance measurements through the sampling area along each of four transects. The results demonstrated that the wandering quarter method yields a good estimation of the population parameters on the distribution patterns investigated.--From summ.

Besedin, B. D., A. I. Kamyshev, and M. N. Shilov. [RESULTS OF A PRELIMINARY SURVEY IN THE VICINITY OF LAKE CHELKAR-TENGIZ SALT MARSH, KAZAKH SSR.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 67(2): 149. 1962. [From Biol. Abstr. 42(4), 1963. (In Russian).] WR 111: 11

From 21-30 Oct. 1960, a survey in the Irgiz and Turgai regions was to establish the distribution and habitats of rodents which act as carriers of sylvatic plague, chiefly Rhombomys opimus. The author also mentions habitats of Microtus socialis, Ellobius talpinus, Citellus pigmaeus, C. fulvus, Arvicola amphibius, Fiber zibethicus, Canis lupus, Vulpes vulpes, Sus scrofa, and others. It is concluded that conditions do not exist in this region which would maintain plague infection for any length of time if the disease were introduced from an enzootic area.--M. Das.

Lachmajer, J. THE FLEAS OF SMALL MAMMALS IN THE NATURAL FOCUS OF ENCEPHALITIS IN THE BIALOWIEZA NATIONAL PARK. Biuletyn Instytutu Medycyny Morskiej I Tropikalnej w Gdansku (Gdansk) 10(1/2): 5-14, 1 fig. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In English with Polish and Russian summ.] WR 111: 11

Twenty species of small mammals were examined, and 16 species of fleas were found. The most common flea on Clethrionomys glareolus was Ctenophtalmus uncinatus, while on Apodemus flavicollis it was C. agyrtes. Quantitative and qualitative differences were found both of host fauna and parasites in different biotopes and depending on the season. Two strains of encephalitis virus were isolated from fleas.

Lachmajer, J., and Z. Wegner. DESCRIPTION OF THE NATURAL FOCUS OF VIRUS ENCEPHALITIS IN THE KARTUZY DISTRICT (GDANSK PROVINCE) 1957. II. SMALL MAMMALS AND THEIR EXTERNAL PARASITES. Biuletyn Instytutu Medycyny Morskiej I Tropikalnej w Gdansku (Gdansk) 10(3/4): 175-184. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In English with Polish and Russian summ.] WR 111: 11

From the 10 species of mammals and 16 species of birds caught on farms the following were collected: Anoplura (29.3%), Aphaniptera (9.3%), Acarina (61.4%). The occurrence of neurotropic viruses was established, which is evidence that the viruses, the primary biotope of which is the forest, penetrated into the immediate vicinity of man.

Newhouse, Verne F., Willy Burgdorfer, John A. McKiel, and John D. Gregson. (Public Health Serv., Rocky Mountain Lab., Hamilton, Mont.) CALIFORNIA ENCEPHALITIS VIRUS / SEROLOGIC SURVEY OF SMALL WILD MAMMALS IN NORTHERN UNITED STATES AND SOUTHERN CANADA AND ISOLATION OF ADDITIONAL STRAINS. Am. J. Hyg. 78(1): 123-129. July 1963. WR 111: 11

Summary: Serologic evidence indicates that Calif. encephalitis virus occurs in southern Calif., northwestern Mont., northern Mich., and in British Columbia and Ontario, Canada. Snowshoe hares (Lepus americanus) and golden-mantled ground squirrels (Citellus lateralis tescorum) were found to possess neutralizing antibodies to this agent. The incidence of neutralizing antibodies in hares from certain areas was as high as 92 per cent. Three strains of CE virus were isolated from ticks off small mammals in western Mont.: two from the wood tick Dermacentor andersoni and one from the rabbit tick Haemaphysalis leporispalustris.

Taylor, Robert L., and Martha H. Shacklette. (Walter Reed Army Inst. Res., Washington, D. C.) NATURALLY ACQUIRED HISTOPLASMOSIS IN THE MAMMALS OF THE PANAMA CANAL ZONE. Am. J. Trop. Med. & Hyg. 11(6): 796-799, map. 1962. [From Biol. Abstr. 42(1), 1963.] WR 111: 11

H. capsulatum was isolated from 12 spiny rats (Proechimys semispinosus), 7 common opossums (Didelphis marsupialis) and 4 "four-eyed" opossums (Philander o. fuscogriseus).--From auth. abstr.

Wegner, Z. LICE OF SMALL MAMMALS IN A NATURAL FOCUS OF TICK-BORNE ENCEPHALITIS IN THE BIALOWIEZA PRIMAEVAL FOREST (NATIONAL PARK). Biuletyn Instytutu Medycyny Morskiej I Tropikalnej w Gdansku (Gdansk) 10(1/2): 31-38. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In English with Polish and Russian summ.] WR 111: 12

Six species of lice were found on 20 species of small mammals caught and examined in the Bialowieza Primaeval Forest. The tick-borne virus of encephalitis was not isolated.

SHREWS, MOLES, BATS

Davis, Russell, and E. Lendell Cockrum. (Univ. Ariz., Tucson.) BRIDGES UTILIZED AS DAY-ROOSTS BY BATS. J. Mammal. 44(3): 428-430, 1 fig. Aug. 1963. WR 111: 12

Twenty bridges were known in Ariz. which were used by bats for roosting. Roosts with as many as about 3000 bats were found in both highway and railroad bridges. Seven species of bats were noted.

Greenhall, Arthur M. (Royal Victoria Inst. Museum, Port of Spain, Trinidad.) USE OF MIST NETS AND STRYCHNINE FOR VAMPIRE CONTROL IN TRINIDAD. J. Mammal. 44 (3): 396-399. Aug. 1963. WR 111: 12

Mist nets and strychnine syrup were used for bat collecting and vampire destruction in Trinidad. Twelve-meter, 4-shelf, nylon nets, along with poison, collected 127 bats of 19 spp., including 58 vampires in 3 nights. Nets set around dwellings with sleeping people caught vampires attempting to enter. Strychnine syrup applied to fresh vampire bat bites on livestock killed vampires; 12 being poisoned from a calf and cow in one night.--From abstr.

Herreid, Clyde F. II. (Univ. Alaska, College.) SURVIVAL OF A MIGRATORY BAT AT DIFFERENT TEMPERATURES. J. Mammal. 44(3): 431-433. Aug. 1963. WR 111: 12

Lowering of body temperature and metabolic rate increased the survival time of migratory free-tailed bats, but the saving of energy was smaller than that attained by hibernating species of bats.

Kahmann, Herman, and Melâhat Cağlar. (Univ. Istanbul, Turkey.) TÜRKIYE MEMELILERI HAKKINDA. 1. HATAY BÖLGESINDEN YARASALAR. [CONTRIBUTION TO THE MAMMAL INFORMATION OF TURKEY. 1. BATS FROM HATAY DISTRICT. (A PRELIMINARY REPORT).] Istanbul Univ. Fak. Mecmuasi 25(1/2): 1-21, illus. 1960. [From Biol. Abstr. 41(4), 1963. (In Turkish) with German summ.] WR 111: 12

MacLeod, C. F., and J. L. Lethiecq. (Forest Res. Lab., P. O. Box 35, Sillery, Quebec, Canada.) A COMPARISON OF TWO TRAPPING PROCEDURES FOR SOREX CINEREUS. J. Mammal. 44(2): 277-278. May 1963. WR 111: 12

"The results of 26 days of trapping in the grid and 5 days of trapping on each of the traplines are summarized.... Even though the number of pitfall traps was only one-third the number of snap traps in the grid and only one-sixth the number of snap traps in the traplines, the number of shrews captured in them comprised 91.4% of the total captured in the grid and 88.3% of the total captured in the traplines. In view of these results it is apparent that the expenditure of the extra effort involved in setting out pitfall traps is warranted when the presence or abundance of Sorex in an area is to be determined."

Pearson, E. W., and Thomas R. B. Barr. ABSENCE OF RABIES IN SOME BATS AND SHREWS FROM SOUTHERN ILLINOIS. Trans. Ill. State Acad. Sci. 55(1): 35-37. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 12

Pfeiffer, Carl J., and George H. Gass. (Southern Ill. Univ., Carbondale.) NOTE ON THE LONGEVITY AND HABITS OF CAPTIVE CRYPTOTIS PARVA. J. Mammal. 44(3): 427-428. Aug. 1963. WR 111: 13

Two shrews, approximately 1 month old when captured, lived 20 months in captivity. These animals became quite tame and ate from the keeper's hand. They were fed live insects, raw ground beef and flesh from mice, rats and rabbits.

Pucek, Z. BIOLOGICAL ASPECTS OF THE SEX RATIO IN SOREX ARANEUS ARANEUS L. Acta Theriologica (Bialowieza) 3(4): 43-73, 2 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In English with Polish summ.] WR 111: 13

A total of 9241 specimens were captured and examined in the Bialowieza National Park. The capture method was found to affect the percentage obtained of sex and age classes.

Shillito, Joy F. (= Mrs. J. Babington). (195 Harborough Ave., Sheffield 2, Yorkshire, England.) OBSERVATIONS ON THE RANGE AND MOVEMENTS OF A WOODLAND POPULATION OF THE COMMON SHREW SOREX ARANEUS L. Proc. Zool. Soc. London 140 (3): 533-546, 11 figs. May 1963. WR 111: 13

It was found that juveniles generally remained within a small area of average length 37 meters, but some dispersed more widely (119 meters recorded). The juvenile ranges were well spaced in the wood and maintained by over-wintering or subadult shrews although they were slightly decreased in size (average length 28.4 meters). Breeding females mostly extended the subadult range to an average length of 39.6 meters without changing the location of the range, but some moved prior to breeding when 112 meters movement was recorded. Males moved extensively in spring with intense activity (up to 144 meters recorded) and as a result unmarked males entered the wood and marked males left.--From abstr.

Tamsitt, J. R., and Carlos A. Mejia. (Univ. Bridgeport, Bridgeport, Conn.) THE REPRODUCTIVE STATUS OF A POPULATION OF THE NEOTROPICAL BAT, ARTIBEUS JAMAICENSIS, AT PROVIDENCIA. Caribbean J. Sci. 2(4): 139-144. 1962. WR 111: 13

The reproductive physiology of the bat Artibeus jamaicensis is discussed. Birth of young appears to be correlated with the period of peak food supplies.

Tamsitt, J. R., and Dario Valdivieso. (Univ. Bridgeport, Bridgeport, Conn.) REPRODUCTIVE CYCLE OF THE BIG FRUIT-EATING BAT, ARTIBEUS LITURATUS OLFERS. Nature 198(4875): 104. Apr. 1963. WR 111: 13

This bat apparently breeds throughout the year in South America.

Whitaker, John O., Jr., and Maria G. Ferraro. (Cornell Univ., Ithaca, N. Y.) SUMMER FOOD OF 220 SHORT-TAILED SHREWS FROM ITHACA, NEW YORK. J. Mammal. 44(3): 419. Aug. 1963. WR 111: 13

The percentage frequency and volume of different food items in stomachs of Blarina brevicauda are tabulated.

Williams, Russell R. TREMATODES FROM THE CAVE BAT, MYOTIS SODALIS MILLER AND ALLEN. Ohio J. Sci. 62(5): 273. Sept. 1962. [From J. Mammal. 44(2), 1963.] WR 111: 13

RABBITS AND PIKAS

Conaway, Clinton H., and Howard M. Wight. (Univ. Mo., Columbia.) AGE AT SEXUAL MATURITY OF YOUNG MALE COTTONTAILS. J. Mammal. 44(3): 426-427. Aug. 1963. WR 111: 13

During late summer very young rabbits appeared in a cage containing an adult female and no male other than those in a litter produced by the female in the same breeding season.

Demidov, P. G., and M. V. Popov. [THE PERIODS AND TYPE OF SHEDDING OF THE WHITE HARE IN YAKUTIA.] Nauch. Soobshch. Yakut. Fil. Sibir. Akad. Nauk SSSR 5: 95-99. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 11I189. Transl. of Russian abstr.] WR 111: 14

Eberhardt, Lee, Tony Peterle, and Raymond Schofield. (Hanford Lab., General Electric Co., Richland, Wash.) PROBLEMS IN A RABBIT POPULATION STUDY. Wildl. Monographs no. 10. 51 p., 23 figs. June 1963. WR 111: 14

The unreliability of the Lincoln Index for estimating cottontail population sizes is the burden of this paper: "As with many similar situations, live-trapping has become a more or less routine operation after the first few years, and workers have taken its principal result, the Lincoln Index population estimate, as a reliable measure of the rabbit population. We have based a great deal of other work on this estimate, assuming that it was reliable. Only within the past few years have we realized that it is not reliable, and many items covered in this report have turned up in the course of searching for some way of determining what was responsible for the difficulty with the Lincoln Index and for a means of correcting the bias." The present article is a progress report and does more to raise questions about the validity of the Lincoln Index for measuring rabbit populations than to make the method acceptable. This is a thought-provoking evaluation of the reliability of an accepted method and should tend to warn of the danger of being satisfied that all is well merely because many persons have been satisfied with the method.

Edwards, Wm. R. (Ill. Nat. Hist. Surv., Urbana.) FIFTEEN COTTONTAILS IN A NEST. J. Mammal. 44(3): 416-417. Aug. 1963. WR 111: 14

Fifteen young of at least 2 age classes were found in a nest. The young were nursed by two adults.

Jezierski, W. [RESULTS OF INVESTIGATIONS OF THE HARE IN THE POZNAN PROVINCE.] Lowiec Polski (Warsaw) 18(1117): 2-4. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 14

The article gives the results of questionnaires sent out with the aim of establishing the numbers of hares in different areas. The ratio of hares born the current year to hares born in previous years was assessed. The ratio of females to males was found to vary, but taken for the province as a whole it was found to be maintained at 1:1. The northern and western provinces exhibited lesser dynamics in the renewal of the hare population than the southern and eastern provinces. A positive correlation was found between the number of males and general numbers of the population. A detailed discussion was given of the methods used for questionnaire studies and for preparing statistical results from them.

Jorgensen, Clive D. DISTURBANCE OF MAMMAL TRAPS BY JACK RABBITS. Great Basin Naturalist 22(1-3): 83-86, 15 Oct. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 14

Szederjei, A. [HUNGARIAN RESEARCH ON THE HARE.] Lowiec Polski (Warsaw) 19 (1094): 4-5, and 20(1095): 2-3. 1958. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 14

The results of a study of the movements of hares, using the ear-tag method. Data refer to the extent of movements of large hares tagged when about 2-5 days old and include weights of individuals obtained from different regions. Comparison was made of the percentage of ♂♂ and ♀♀ and age classes of captures, using different methods of capture.

Thomas, A. S. ("Goodings", Alfriston, Sussex, England.) FURTHER CHANGES IN VEGETATION SINCE THE ADVENT OF MYXOMATOSIS. J. Ecol. 51(1): 151-186. Feb. 1963. WR 111: 15

Plants which remained green and growing in winter and early spring increase after reduction of rabbits and decreased after return of rabbits. Orchids were reduced both in the grassland and woodland after the return and increase of rabbits. The grazing activities of the rabbits disturbed the soil and favored establishment of seedlings so that some plants (eg. Glechoma hederacea and Senecio jacobaea) were favored over plant competitors.

Tilgner, D. [THE INFLUENCE OF WEATHER ON VARIATIONS IN NUMBERS OF HARES.] Lowiec Polski (Warsaw) 17(1092): 2-3. 1958. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 15

Information on the results obtained by the Danish research worker Andersen from his investigations of many years. A diagram of the numbers of hares shot for the last 50 years reveals cyclical increases and decreases (every 3-5 years). There is significant correlation of these dynamics with the amount of rainfall during the summer months, the sum of average temperatures for the months Mar.-June and the number of frosty days during the period Dec. to Mar.

Yuill, Thomas M., and James L. Eschle. (Univ. Wis., Madison.) MYIASIS OF PENNED NESTLING COTTONTAILS. J. Wildl. Mgmt. 27(3): 477-480, 1 fig. July 1963. WR 111: 15

Abstract: Myiasis of penned nestling cottontail rabbits (Sylvilagus floridanus) by the gray flesh fly (Wohlfahrtia vigil) occurred in Wis. In an outdoor colony, during 1960, 22% of 18 litters and 16% of 81 individuals born were infested, and in 1961, 13% of 46 litters and 10% of 173 individuals were parasitized. Death usually occurred among infested young rabbits. Severe myiasis in ranch mink in Wis., Wash., and Iowa was accompanied by declines in cottontail populations in these states. The evidence that Wohlfahrtia affects cottontail populations is circumstantial and needs to be confirmed by field observations.

RODENTS--MISCELLANEOUS

Allred, Dorald M., and D Elden Beck. (Brigham Young Univ., Provo, Utah.) RANGE OF MOVEMENT AND DISPERSAL OF SOME RODENTS AT THE NEVADA ATOMIC TEST SITE. J. Mammal. 44(2): 190-200, 10 figs. May 1963. WR 111: 15

Abstract: Range of movement and dispersal of Ammospermophilus leucurus, Dipodomys merriami, D. microps, Onychomys torridus, Peromyscus maniculatus, Perognathus formosus and P. longimembris were studied for over a year at the Atomic Test Site, Mercury, Nev. Traps were operated more than 25,000 trap nights in five different plant associations. Recapture data, range of movement distances, maximum dispersal distances and range of movement patterns are given.

Bibikov, D. I., B. M. Kasatkin, and M. A. Mikulin. [JOINT COLONIES OF RHOMBOMYS AND MARMOTA AND THE POSSIBLE RELATIONSHIPS BETWEEN THE DESERT AND MOUNTAIN FOCI OF PLAGUE IN CENTRAL ASIA.] Trudy Sredneaz. Nauch.-Issledovatel. Protivochum. Inst. 7: 111-113. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I254. Transl. of Russian abstr.] WR 111: 15

Jointly occupied colonies of Marmota and Rhombomys were found in the Turaigyr and Altynemel' ranges of central Asia. In such colonies the entrances of the Rhombomys burrows are often located on the mounts of marmots and in the walls of marmot burrows. Contact between the marmots and gerbils may be made by means of fleas, carried either by the rodents themselves or by birds or predators. The extermination of Rhombomys in 1954 in the Turaigyr range had no effect on the number of marmots, but did result in a massive migration of predators.

Brander, Robert Bruce. AN ECOLOGICAL STUDY OF THE PORCUPINE ON THE OTTAWA NATIONAL FOREST. M.S. thesis, Univ. Mich. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 16

Brander, Robert, and Forest W. Stearns. (Univ. Mich., Ann Arbor.) PORCUPINE WINTER FEEDING ACTIVITY IN MERCHANTABLE STANDS OF NORTHERN HARDWOOD--HEMLOCK. U.S. Forest Serv., Res. Note LS-16. 2 p., 1 fig. July 1963. WR 111: 16

On one area, with a porcupine population estimated at 9-12 animals per square mile, 11% of trees had been gnawed in previous two years; on a second area with an estimated population of 50-75 animals per square mile, 44% of trees had been gnawed in the same period. Surveys of feeding activity may provide the basis for estimates of porcupine populations in northern hardwood forests.

Chashchin, S. P. [SETTLEMENT OF BEAVER AND MUSKRAT IN PERM' OBLAST AND THEIR PROTECTION.] In: Okhrana Prirody Na Urale 2: 111-119. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 10I214. Transl. of Russian abstr.] WR 111: 16

Curry-Lindahl, Kai. (Nordiska Museet & Skansen, Stockholm, Sweden.) NEW THEORY ON A FABLED EXODUS / ENDOCRINE MALFUNCTION MAY CAUSE LEMMING PSYCHOSIS. Nat. Hist. 72(7): 46-53, illus. Aug.-Sept. 1963. WR 111: 16

Dead animals were found in their burrows when a population crash occurred, and the crash was apparently not associated with predation or food shortage but appeared to be associated with physiological imbalance. "Manifestations of great physiological imbalance in Lemmus lemmus are more often expressed by individuals that occur in summer in lower and warmer areas, to which the species is less adapted and to which they have been forced by population pressure in upper, optimal habitats." The view is entertained that "the disfunction of the pituitary seems to result in an overproduction of the adrenocortical stimulating hormone, which in its turn overstimulates the adrenal function in such a way that the production of corticoid hormones first increases and then reaches a stage of complete exhaustion."

Davis, D. H. S. (Med. Ecol. Center, State Dept. Health, Johannesburg, Transvaal, Union South Africa.) DISTRIBUTION PATTERNS OF SOUTHERN AFRICAN MURIDAE, WITH NOTES ON SOME OF THEIR FOSSIL ANTECEDENTS. Ann. Cape Provincial Museums 2: 56-76, 7 figs. 1962. WR 111: 16

The degree of attachment of the species of rodents of the family Muridae to the major biotic zones is analyzed.--From summ.

Eads, R. B., H. A. Trevino, and E. G. Campos. (Public Health Serv., Brownsville, Texas.) TRIATOMA (HEMIPTERA: REDUVIIDAE) INFECTED WITH TRYPANOSOMA CRUZI IN SOUTH TEXAS WOOD RAT DENS. Southwestern Naturalist 8(1): 38-42. 10 May 1963. WR 111: 16

Of 390 Triatoma examined for infection with Trypanosoma cruzi, the causative organism of Chagas disease, 16% were found to harbor the trypanosomes in their dejecta.--From abstr.

Eisenberg, John F. (Univ. Calif., Berkeley.) STUDIES ON THE BEHAVIOR OF PEROMYSCUS MANICULATUS GAMBELLI AND PEROMYSCUS CALIFORNICUS PARASITICUS. Behaviour 19(3): 177-207, illus. 1962. [From Biol. Abstr. 41(5), 1963.] WR 111: 16

Fertig, Daniel S., and James N. Layne. (Univ. Southern Calif., Los Angeles.) WATER RELATIONSHIPS IN THE FLORIDA MOUSE. J. Mammal. 44(3): 322-334, 3 figs. Aug. 1963. WR 111: 16

The Florida mouse cannot survive indefinitely on dry food without water or succulent food supplements. Under conditions of total water deprivation, field animals lost an average of 27.6% of their weight before death and survived an average of 3.6 days.--From abstr.

Folitarek, S. S. [A METHOD OF CONTROLLING WATER RATS BY THE USE OF LONG-ACTING EXTERMINATION POINTS.] In: (The water rat and its control in western Siberia.) (Novosibirsk.) p. 377-387. 1959. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1961, no. 4D721. Transl. of Russian abstr.] WR 111: 17

As a permanent poisoning place trials were made of a box made of unplaned boards (13 x 13 x 7.5-8 cm) with a removable top and the entrance hole at the base of one of the walls (3 x 5.5 cm). The inside walls of the box are dusted with various quantities of zinc phosphide. Death of the water rats which had visited the box was noted even 30 days after they had been powdered with 5 g of the poison. In the first 10 days of the experiment the average time required for the water rats to die was 3 hours 36 minutes; in the third 10 days, up to 8 hours 28 minutes. The action of the poison in the boxes powdered with zinc phosphide was retained for more than a year, and was not completely stopped at 13-1/2 months. Field trials were made with the boxes under different conditions of treatment with zinc phosphide, and approval is recommended for pilot production of them.

Folitarek, S. S., A. A. Maksimov, N. I. Blagoveshchenskii, M. G. Vladimirskii, G. V. Kvitnitskaya, and Yu. N. Klimov. [A SYSTEM OF MEASURES FOR PROTECTING CROPS AGAINST THE WATER RAT AND FOR THE PROPHYLAXIS OF TULAREMIA IN WESTERN SIBERIA.] In: (The water rat and its control in western Siberia.) (Novosibirsk.) p. 426-456. 1959. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1961, no. 4D724. Transl. of Russian abstr.] WR 111: 17

Control of the water rat must be carried on in 2 different directions: operative and general. The operative consists of measures for protecting the crops and tularemia prophylaxis, both involving concrete circumstances over a definite period of time and usually under the threat of mass reproduction of the water rat. To accomplish radical alteration of the useful land occupied by the water rat, the authors recommend improving the lowland pastures, broadening the economically useful areas there by cutting down and rooting out the bushes, draining the bogs, burning off the reeds, and using a rational system of irrigation.--From abstr.

Folitarek, S. S., A. S. Zybin, and A. A. Maksimov. [THE WATER RAT AS A PEST OF FARMS AND FORESTS OF WESTERN SIBERIA.] In: (The water rat and its control in western Siberia.) (Novosibirsk.) p. 238-257. 1959. [From Biol. Abstr. 40 (3), 1962, from Referat. Zhur., Biol., 1961, no. 4D716. Transl. of Russian abstr.] WR 111: 17

In its years of mass reproduction, the water rat can destroy 80% to 100% of the field crops of grain and technical products. They cause significant damage to truck gardens, meadows, haystacks, strawstacks, etc. and to water systems. In forests, nurseries, and gardens near bodies of water the water rat gnaws the bark of several dozen kinds of trees. The water rat does most of its damage in the fall.--From abstr.

Forbes, Richard B. (Univ. Minn., Minneapolis.) DRINKING BEHAVIOR OF KANGAROO RATS. J. Mammal. 44(3): 423-424. Aug. 1963. WR 111: 17

Captive Dipodomys merriami drank water about every 48 hours. Their front feet were held together and wetted with the water provided in a syracuse dish and the water then licked from their feet.

Golikova, V. L. [SEASONAL CHARACTERISTICS OF COLONIES OF APODEMUS SYLVATICUS AND EVOTOMYS GLAREOLUS IN THE VORONEZHSKII GAME RESERVATION.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 308-310. 1959. [From Biol. Abstr. 41(2), 1963, from Referat. Zhur., Biol., 1961, no. 6D423. Transl. of Russian abstr.] WR 111: 17

Koshkina, T. V. [MIGRATIONS OF LEMMUS LEMMUS.] Zool. Zhur. 41(12): 1859-1874. 1962. [From Biol. Abstr. 42(6, pt. 1), 1963. (In Russian) with English summ.] WR 111: 17

Lawrence, William H., and Charles A. Sherman. (Weyerhaeuser Co., Centralia, Wash.) AN ELECTRONIC TRAFFIC COUNTER FOR RECORDING BURROW ACTIVITY OF THE MOUNTAIN BEAVER. J. Mammal. 44(3): 399-405, 2 figs. Aug. 1963. WR 111: 18

Circuit diagram and construction details are given for a small self-contained recording instrument used to study burrow-use patterns of mountain beavers. This recorder, which could be used to study the activities of a variety of burrow-dwelling animals, contains a resistor-capacitor unit operated by a 30-v battery that minimizes the recording of spurious counts.--From abstr.

Lozan, M. N. [THE POSTEMBRYONIC DEVELOPMENT OF THE COMMON DORMOUSE (MUSCARDINUS AVELLANARIUS L.).[Trudy Inst. Biol., Moldav. Fil. Akad. Nauk SSSR 1: 137-140. 1960. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I268. Transl. of Russian abstr.] WR 111: 18

Maksimov, A. A., and E. K. Andrusevich. [REFUGES (BURROWS, NESTS) AND FEEDING OF THE WATER RAT.] In: (The water rat and its control in western Siberia.) (Novosibirsk). p. 49-71. 1959. [From Biol. Abstr. 40(3), 1962, from Referat. Zhur., Biol., 1961, no. 4D710. Transl. of Russian abstr.] WR 111: 18

Moritsch, H., and J. Loew. (Univ. Vienna, Austria.) TECHNIK UND BEDEUTUNG DER ISOLIERUNGSVERSUCHE VON FRÜHSOMMER-MENINGO-ENCEPHALITIS (FSME)-VIRUS AUS MURIDEN UND ARTHROPODEN. [TECHNIQUE AND SIGNIFICANCE OF ISOLATION STUDIES OF EARLY SUMMER-MENINGO-ENCEPHALITIS (ESME)-VIRUS FROM RODENTS AND ARTHROPODS.] Zentralbl. Bakt. Parasitenk. Infektionskrankh. u. Hyg. 182(1): 20-30, illus. 1961. [From Biol. Abstr. 41(4), 1963. (In German).] WR 111: 18

Murie, Martin. (Antioch Coll., Yellow Springs, Ohio.) HOMING AND ORIENTATION OF DEERMICE. J. Mammal. 44(3): 338-349, 1 fig. Aug. 1963. WR 111: 18

A homing tendency was shown by deermice liberated at several points 200 to 1,600 yards from their place of capture. The proportion homing from 200 yards was 75%; from 1,600 yards three individuals (7.8%) returned. Juveniles homed less frequently than adults and subadults. The time intervals between release and recapture ranged from 8 hours to 25 days. Results support the hypothesis that displaced deermice wander extensively, and at random, in relation to the "true" homeward course.--From abstr.

Nikiforova, O. K., and S. S. Politarek. [THE USE OF KHLORAMIN B FOR THE CONTROL OF WATER RATS AND OTHER MURINE RODENTS.] In: (The water rat and its control in western Siberia.) (Novosibirsk). p. 387-419. 1959. [From Biol. Abstr. 40(3), 1962, from Referat. Zhur., Biol., 1961, no. 4D722. Transl. of Russian abstr.] WR 111: 18

Laboratory experiments with 1264 small mammals of 15 species showed that khloramin B ($C_6H_5SO_2NClNa$) was highly toxic to them. For animals placed in a 10% solution at 22-26°C, khloramin B was 11 times as toxic for water rats as pure water, 15 times for Microtus oeconomus, 17 times for the stenocephalic vole, 8 times for Micromys minutus, and 5-6 times for the field mouse. House and white mice and rats are more resistant to solutions of khloramin B than are field mice. It was established that the substance acts through the skin and is therefore related to the contact poisons. The authors recommend the use of khloramin B for poisoning earth pits in the plowed ditches used in water rat control.

Pearson, Arthur M. ACTIVITY PATTERNS, ENERGY METABOLISM, AND GROWTH RATE OF THE VOLES CLETHRIONOMYS RUFOCANUS AND C. GLARBOLUS IN FINLAND. Ann. Zool. Soc. Zool. Bot. Fennicae "Vanamo" (Helsinki) 24(5): 1-58. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 18

Polezhaev, V. G., I. I. Zemit, E. K. Ratsenis, I. V. Nagornov, and L. A. Kirin. [A STUDY OF THE MOVEMENTS OF THE HOODED RAT IN AN URBAN ENVIRONMENT AS A BASIS FOR DERATIZATION PROCEDURES.] Trudy Tsentral. Nauch.-Issledovatel. Dezinfekts. Inst. 12: 245-254. 1959. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1961, no. 1D710. Transl. of Russian abstr.] WR 111: 19

The studies took place over a period of 3 years, and covered an area of 16 city blocks (mainly in the city of Riga). Data from 136,557 trap/days are the basis for an analysis of variations in the relationship of rodent-populated and rodent-free areas. Percentiles of capture per 100 trap/days and per 1000 m^2 are used as relative population indicators. Data are given on the repopulation of rodent-freed areas during various seasons of the year. Effectiveness of continuous deratization in cities is noted.

Sheppe, Walter. (N. Y. State Univ., Buffalo.) POPULATION STRUCTURE OF THE DEER MOUSE, PEROMYSCUS, IN THE PACIFIC NORTHWEST. J. Mammal. 44(2): 180-185, 2 figs. May 1963. WR 111: 19

Abstract: Life history data on P. oreas and three races of P. maniculatus were gathered in the course of a study of the systematics and ecology of these mice. Five age groups were recognized, based on the amount of wear on the molars. Breeding began in late winter and was at its height in the spring. It declined during the summer and ended in late summer or early fall. P. maniculatus continued to breed for a month or more after P. oreas stopped breeding. Animals born early in the breeding season were breeding by June of the same year, but those born late in the season did not breed until the following year. Litter size averaged 6.1 in P. oreas, 5.5 in P. maniculatus. In June one-third of the catch consisted of young of the year, in July one-half, and in Aug. three-fourths, but the proportion of young apparently declined slightly in Sept. Young males outnumbered young females, but old females outnumbered old males, suggesting that females live longer.

Smith, Robert Leo. (W. Va. Univ., Morgantown.) ACORN CONSUMPTION BY WHITE-FOOTED MICE (PEROMYSCUS LEUCOPUS). W. Va. Univ. Agr. Expt. Sta. Bull. 482T. 15 p., 1 fig. Dec. 1962. WR 111: 19

Based on the facts that acorns alone are not a satisfactory diet for mice, that the mice have a decided preference for white oak acorns, and that white oak reproduction exceeds that of red oak by 70%, even though red oak is a more abundant seed producer, it is concluded that white-footed mice have little if any influence on oak reproduction.--From summ.

Soboleva, R. G. [NEW SEEDING WITH ZOOCOUMARIN FOR THE CONTROL OF RODENTS.] Soobshch. Dal'nevost. Fil. Sibirsk. Otd. Akad. Nauk SSSR 14: 67-70. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 17I1255. Transl. of Russian abstr.] WR 111: 19

Strecker, Robert L., Joe T. Marshall, Jr., William B. Jackson, Kyle R. Barbehenn, and David H. Johnson. PACIFIC ISLAND RAT ECOLOGY / REPORT OF A STUDY MADE ON PONAPE AND ADJACENT ISLANDS 1955-1958. Bernice P. Bishop Museum Bull. 225. iv + 274 p., 73 figs. 1962. WR 111: 19

Separately authored sections concern the area of study, taxonomy, geographic distribution and color phases of Micronesian rodents, ecological distribution and relative numbers, habitats and habits, population studies, intra- and interspecific behavior, predation and natural selection, parasites and diseases, and economic relations. In the population section population densities, growth and development, sex ratios, reproduction, longevity and mortality, home ranges, bait consumption, and effects of modification of environment are discussed. This section and the others contain much thoughtful discussion. Anyone concerned with home range problems will be especially interested in the section so titled, and also in the sections on bait experiments and environmental changes.--Lucille F. Stickel.

Tanaka, Ryo. (Kochi Women's Univ., Kochi, Japan.) ADRENAL ANALYSIS FOR CRITIQUE OF THE SOCIAL STRESS THEORY IN NATURAL POPULATIONS OF A MONTANE VOLE, Res. Population Ecol. 4: 8-16, 3 figs. Dec. 1962. WR 111: 20

The pregnancy rate of voles (Eothenomys smithi) increased with increasing population density, but no significant difference was noted in the adrenal sizes in low, medium, and high density populations.

Ternovskaya, Yu. G., and A. N. Vorsin. [USE OF RADIOACTIVE TRACERS IN MARKING ARVICOLA AMPHIBIUS.] In: (A. amphibius and its control in Western Siberia.) (Novosibirsk). p. 210-216. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D644. Transl of Russian abstr.] WR 111: 20

The feasibility of using radioactive isotopes in marking A. amphibius was investigated in 1954 under field and laboratory conditions. Isotopes used were P^{32}, Ca^{45} and I^{131}. The median dose of active substance was 0.2 u curie, i.e. 0.1 of the dose of Ondatra zibethica. Young shoots, reeds and carrots were used as bait. The preparations of the active solutions and of marked bait is described. Pieces of liver, incisors of the lower jaw, and whole animals (which produced better results) were analyzed to identify marked animals. A preliminary field test of P^{32} application, set up in a plowed furrow, indicated good edibility of the marked bait, and the feasibility of tracing marked A. amphibius.

Tupikova, N. V. [MAPPING THE DENSITY OF COLONIZATION OF ARVICOLA AMPHIBIUS FROM REGIONAL FUR YIELD DATA.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 148-158. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D640. Transl. of Russian abstr.] WR 111: 20

Tupikova, N. V., and A. P. Shvedov. [THE TAXONOMY, DISTRIBUTION AND ECOLOGY OF THE ALTAI ALPINE FIELDMOUSE.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 66(6): 5-14. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 10I220. Transl. of Russian abstr. Original with English summ.] WR 111: 20

Twigg, G. I., and H. Miller. (Royal Holloway Coll., Englefield Green, Surrey, England.) THE USE OF CALCIUM^{45} AS AN AGENT FOR LABELING RAT POPULATIONS. J. Mammal. 44(3): 335-337. Aug. 1963. WR 111: 20

Abstract: Calcium^{45} may be used as an effective marker for adult rats and their offspring when fed at the rate of 3.92µc each.

Udagawa, T. [A FIELD TEST ON THE SPORADIC SCATTERING OF TELODRIN, A NEW RODENTICIDE.] Jap. Forestry Soc. J. 45(2): 39-42. Feb. 1963. [From Bibliog. Agr. 27(6), 1963. In Japanese with English summ.] WR 111: 20

Tested on voles.

Varshavskii, S. N., and M. N. Shilov. [MAPPING COLONIES OF THE LARGE GERBILL IN THE NORTHERN PRIARAL'.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 113-123. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D638. Transl. of Russian abstr.] WR 111: 20

Whitaker, John O., Jr. (Ind. State Coll., Terre Haute.) FOOD, HABITAT AND PARASITES OF THE WOODLAND JUMPING MOUSE IN CENTRAL NEW YORK. J. Mammal. 44 (3): 316-321. Aug. 1963. WR 111: 20

Wooded areas with herbaceous ground cover, especially when moist, were more apt to harbor Napaeozapus than were dry areas, or areas with little or no cover. The stomachs of 103 mice contained, by volume, 37% subterranean fungi (Endogone and Hymenogaster), 24% various seeds, 12% fleshy fruits, 10% lepidopterous larvae, 8% miscellaneous vegetation, 8% Coleoptera and 1% unidentified animal material. A cestode, Hymenolepis sp., and nematodes, Rictularia sp. and Citellinoides zapodis were found. The mites, Haemolaelaps

glasgowi, Eulaelaps stabularis, Haemogamasus alaskensis, Protomyobia brevisetosa, Radfordia ewingi, Pergamasus sp. and Labidophorus (=Dermacarus) were on some of the mice. Three fleas, Orchopeas leucopus, were taken. The protozoan, Hexamita, was seen in cecal smears of 2 mice examined.--From abstr.

Whitaker, John O., Jr. (Ind. State Coll., Terre Haute.) FOOD OF 120 PEROMYSCUS LEUCOPUS FROM ITHACA, NEW YORK. J. Mammal. 44(3): 418-419. Aug. 1963. WR 111: 21
The percentage frequency and volume of food items in stomachs are tabulated.

Whitaker, John O., Jr. (Ind. State Coll., Terre Haute.) A STUDY OF THE MEADOW JUMPING MOUSE, ZAPUS HUDSONIUS (ZIMMERMAN), IN CENTRAL NEW YORK. Ecol. Monographs 33(3): 215-254, 2 figs. Summer 1963. WR 111: 21
Based on a Ph.D. thesis earlier reviewed (WR 109: 24). An excellent bibliography is included.

Witte, G. ZUR SYSTEMATIK UND VERBREITUNG DES SIEBENSCHLÄFERS GLIS GLIS L. IN ITALIEN. [ON THE TAXONOMY AND DISTRIBUTION OF THE DORMOUSE GLIS GLIS L. IN ITALY.] Bonner Zool. Beiträge 13(1-3): 115-127. 1962. [From J. Mammal. 44 (2), 1963. (In German).] WR 111: 21

Zejda, Jan. (Czechoslovak Acad. Sci., Lidická 79, Brno.) ZIMNÍ ROZMNOŽOVÁNÍ NORNÍKA RUDÉHO (CLETHRIONOMYS GLAREOLUS SCHREB.) [WINTER BREEDING IN THE BANK VOLE, CLETHRIONOMYS GLAREOLUS SCHREB.] Zool. Listy 11 (4): 309-321, 3 figs. 1962. [In English with Czech summ.] WR 111: 21
The usual breeding season of the bank vole in the area studied lasts from April to September. But in the fall of 1959, and again in 1960, an abundance of acorns in certain habitats and unusually warm weather were accompanied by extensive winter breeding. (Breeding did not occur in neighboring areas without acorns). Young born in the fall bred during the winter, older voles disappeared from the population, and the spring population was largely constituted of relatively young animals. Litter size in winter was smaller than normal. Breeding season was in full swing in February, two months earlier than usual, and two or three generations were produced from February to May. Breeding ceased in June, earlier than usual. The result was a great population peak in summer of 1961.--Lucille F. Stickel.

Zimmermann, K. LE CAMPAGNOL DES STEPPES MICROTUS BRANDTI (RADDE). [THE STEPPE VOLE MICROTUS BRANDTI (RADDE).] Science & Nature no. 50. p. 1-3 (reprint), illus. Mar.-Apr. 1962. [From J. Mammal. 44(2), 1963. (In French).] WR 111: 21

RATTUS AND MUS

Breakey, Donald R. (Willamette Univ., Salem, Oreg.) THE BREEDING SEASON AND AGE STRUCTURE OF FERAL HOUSE MOUSE POPULATIONS NEAR SAN FRANCISCO BAY, CALIFORNIA. J. Mammal. 44(2): 153-168, 5 figs. May 1963. WR 111: 21
Abstract: Five feral populations of Mus musculus in the salt marshes and adjacent areas of San Francisco Bay, Calif., were studied. Age of specimens was determined by comparing toothwear with that found in feral Mus stock reared in the laboratory under simulated field conditions. Young mice first appeared in the trapped samples commencing with the 16 May-15 June sample and during subsequent samples increased in proportion to over-wintering mice, resulting in polygraph figures resembling those of expanding populations. The polygraph figures continued to resemble those of expansion up to the 16 Nov.-15 Dec. sample period at which time a figure resembling a stationary condition became apparent. The population figures appeared to contract from 16 Nov. through 15 Apr. Males contained sperm in all sample periods. During fall and winter, the proportion of males containing sperm was low. During the latter portion of the breeding season and the early portion of the non-breeding season, many males did not contain sperm even though old enough chronologically

for breeding. Females showed no pregnancies from 16 Dec. through 15 Apr. Females with uterine scars were apparent in the population at all times with a slightly lower proportion during the non-breeding season.

Crowcroft, Peter, and F. P. Rowe. (South Australian Museum, North Terrace, Adelaide, South Australia.) SOCIAL ORGANIZATION AND TERRITORIAL BEHAVIOUR IN THE WILD HOUSE MOUSE (MUS MUSCULUS L.). Proc. Zool. Soc. London 140(3): 517-531, 1 fig. + 2 pls. May 1963. WR 111: 22

Abstract: The social organization of confined groups of wild house mice has been studied by direct observation and by indirect means. The prominent aggressive behaviour which leads to the formation of dominance-subordination relationships under certain laboratory conditions is shown to result in territory formation when suitable environmental elements are provided. Fighting is almost entirely confined to adult males, but pregnant females may also defend territories. Although minor physical injury can result from fighting, survival rates are not significantly depressed if adequate cover is provided. Previous work on fighting in this species is reviewed from an ecological viewpoint and related to the results presented.

Sudeikin, V. A., V. P. Kharlamov, and M. V. Sudeikina. [AN EXPERIMENT OF STUDYING GRAY RAT MIGRATION BY MEANS OF RADIOACTIVE TRACER UNDER THE CONDITIONS OF A LARGE CITY.] Zool. Zhur. 41(9): 1409-1412. Sept. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 22

SCIURIDS

Balph, David Finley. AN INTRODUCTION TO THE ETHOLOGY OF THE UINTA GROUND SQUIRREL (CITELLUS ARMATUS). M.S. thesis, Utah State Univ. 1961. WR 111: 22

Berendyaev, S. A. [ON THE TECHNIQUE OF COUNTING THE NUMBER OF MARMOT BADGERS (ARCTOMYS) BY THE PATH METHOD.] Trudy Sredneaz. Nauchno-Issledovatel. Protivochumn. Inst. 7: 379-381. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 13I118. Transl. of Russian abstr.] WR 111: 22

A visual count was made of marmot badgers on a strip of path from 7-11 a.m. in June-Aug., 1958 and 1959. A total of 33 single counts were made. At the end of each season marmot badgers were destroyed with methyl bromide on the area adjoining the counting strip and were completely trapped on the latter. After comparing the number of animals counted with the number inhabiting the counted strip, the author recommends increasing the visual count by 1.6-3.7 times to obtain a more accurate idea of their number.

Cade, Tom J. (Syracuse Univ., Syracuse, N. Y.) OBSERVATIONS ON TORPIDITY IN CAPTIVE CHIPMUNKS OF THE GENUS EUTAMIAS. Ecology 44(2): 255-261, 3 figs. Spring 1963. WR 111: 22

One E. amoenus entered a state of deep hibernation in a refrigerator at 3°-4°C. An E. quadrimaculatus and an E. amoenus in an outdoor cage became progressively less active as winter advanced, but neither animal entered deep hibernation.--From summ.

Folk, G. Edgar, Jr. (State Univ. Iowa, Iowa City.) OBSERVATIONS ON THE DAILY RHYTHMS OF BODY TEMPERATURE-LABILE MAMMALS. Ann. N. Y. Acad. Sci. 98 (4): 954-968, 14 figs. Oct. 1962. WR 111: 22

By use of radio capsules implanted within the body cavities of ground squirrels (Citellus), heart and brain activity were studied during periods of hypothermia, as were activity rhythms in conditions of continuous light. When exposed to continuous light, one species was shown to have an activity rhythm synchronized with clock time.

Karulin, B. E. [THE EFFECT OF PLOWING THE VIRGIN ISLANDS ON THE MARMOTS OF NORTHERN KAZAKHSTAN.] Trudy Sredneaz. Nauch.-Issledovatel. Protivochum. Inst. 7: 329-332. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I258. Transl. of Russian abstr.] WR 111: 23

After the plowing of virgin steppe, the marmots resettled on the unplowed areas, increasing their density there. The increase in mobility led to destruction of burrows and a deterioration of the food supply, especially on bare fallow fields. An especially high degree of displacement of the marmots was noted around the edges of the fields.--From abstr.

Kizilov, V. A. [REPRODUCTION IN MARMOTA CAUDATA.] Trudy Sredneaz. Nauch.-Issledovatel. Protivochum. Inst. 7: 253-260. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I261. Transl. of Russian abstr.] WR 111: 23

Shorten, Monica. (Ministry Agr., Fisheries & Food, London, England.) SQUIRRELS / THEIR BIOLOGY AND CONTROL. Min. Agr., Fisheries & Food, Bull. no. 184. iii + 44 p., 8 pls., 3 figs. 1962. Price 6 shillings. WR 111: 23

Discusses the history, ecology, habits and control of squirrels in Britain. The red squirrel (Sciurus vulgaris) has been in the area for many years, but the American gray squirrel was introduced by man in about 1876. The red squirrel population has declined since the introduction and success of the gray squirrel, but it is not clear how the gray squirrel has exerted an unfavorable influence on the red squirrel as it appears to have done. The gray squirrel is considered a serious pest because of the damage it does peeling bark from trees, destroying cereal crops of farmers and eating orchard fruit. Bounties have been proved ineffective, while shooting, trapping and nest destruction are considered the most effective control methods.

Snigirevskaya, E. M. [BIOLOGY OF THE EUTAMIAS SIBIRICUS LAX. ON THE AMURZEYA PLATEAU.] Zool. Zhur. 41(9): 1395-1401. Sept. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 23

Tarasova, N. E., and A. M. F. Suyazov. [DATA ON THE ABOVE-GROUND ACTIVITY OF MARMOTS.] Trudy Sredneaz. Nauch.-Issledovatel. Protivochum. Inst. 7: 249-252. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I256. Transl. of Russian abstr.] WR 111: 23

Tkachenko. A. A. [THE INDUSTRIAL AND AGRICULTURAL SIGNIFICANCE OF THE BABOC (MARMOTA BABOC).] Zool. Zhur. 40(11): 1715-1724. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 10I228. Transl. of Russian abstr. Original with English summ.] WR 111: 23

Vishnyakov, S. V. [COMPARATIVE CHARACTERISTICS OF FLEA AND TICK POPULATIONS IN THE NESTS OF GREY MARMOTS IN RELATION TO ENVIRONMENTAL DISTRIBUTION AND HABITATION OF THE BURROWS.] Zool. Zhur. 42(1): 135-138. 1963. [From Bibliog. Agr. 27(6), 1963. In Russian with English summ.] WR 111: 23

BEAVER

Laramie, Henry A., Jr. (N. H. Fish & Game Dept., Concord.) A DEVICE FOR CONTROL OF PROBLEM BEAVERS. J. Wildl. Mgmt. 27(3): 471-476, 4 figs. July 1963. WR 111: 23

Abstract: Beaver (Castor canadensis) dam-induced flooding has been controlled by use of beaver pipes in New Hampshire. These pipes, of fiber or wood and with multiple small openings along the length of the bottom portion, are placed through the dam and into the beaver pond. Height of outlet and length of pipe are factors in producing the desired water level. Installation of wire-mesh guards across the mouths of culverts tends to discourage rebuilding in culverts after the existing dam has been removed. New Hampshire now has 46 beaver dams with pipes installed and working well. All installations must be

checked monthly and maintained as required. Beaver pipes are most useful on watersheds of less than 10 square miles. If culverts are involved, the maximum usable watershed is reduced to 4 square miles.

MUSKRAT AND NUTRIA

Birkenholz, Dale E. (Univ. Fla., Gainesville.) A STUDY OF THE LIFE HISTORY AND ECOLOGY OF THE ROUND-TAILED MUSKRAT (NEOFIBER ALLENI TRUE) IN NORTH-CENTRAL FLORIDA. Ecol. Monographs 33(3): 255-280, 13 figs. Summer 1963. WR 111: 24

Marshland containing 6-18 inches of water, a sandy substrate and a cover of Panicum hemitomon or a Panicum-Pontederia lanceolata mixture were considered most suitable habitat for the round-tailed muskrat. Food consisted chiefly of stems and roots of Panicum hemitomon. Populations appeared to be regulated primarily by water level fluctuations. About 56% of population was $\delta\delta$. Sexual maturity was attained at 90-100 days of age at a weight of 230-280 grams. Breeding was correlated with favorable water levels and weather conditions, and most reproduction occurred in late fall and early winter. The gestation period was 26-29 days, and litter size averaged 2.2 in 104 litters. There were 4-5 litters and approximately 8 young per year per female. Young averaged 12 grams at birth and were weaned by 3 weeks of age. Young passed through 2 molts before attaining adult pelage. Home ranges were studied by injecting animals with radioactive phosphorus, then finding feeding areas by locating radioactive feces on feeding platforms. Maximum densities of 100-120 animals per acre were found. Helminth parasites were found in 41.3% of the specimens examined, but parasitism did not appear to be an important factor in mortality. Mites were present on nearly all specimens examined.--From summ.

Erickson, Howard R. (Towson State Coll., Towson, Md.) REPRODUCTION, GROWTH, AND MOVEMENT OF MUSKRATS INHABITING SMALL WATER AREAS IN NEW YORK STATE. N. Y. Fish & Game J. 10(1): 90-117. Jan. 1963. WR 111: 24

Adult females averaged 6.3 young per litter and nearly 1.5 litters per year. The age ratio of 364 Sept.-trapped muskrats was 328 young per 100 adults, or 5.9 young per adult female. The sex ratio for 174 nestlings was 105 males to 100 females, 279 Sept.-trapped immatures 118 to 100, and of 228 adults trapped during July-Oct., it was 93 to 100. Data are given on growth rates of captive and wild muskrats. Most extensive movements were made in the spring. Home ranges averaged approximately 200 feet in diameter. One animal returned to its home pond overnight after being removed 4800 feet.--From abstr.

Kraft, V. A. [MIGRATIONS OF MUSKRAT (ARVICOLA TERRESTRIS L.) AND THEIR ROLE IN CREATING TULAREMIA EPIZOOTICS.] Zool. Zhur. 40(12): 1883-1891. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 16K177. Transl. of Russian abstr. Original with English summ.] WR 111: 24

In a study of migrations of the muskrats, conducted in 1956-57, three basic kinds of migrations were observed. The largest and longest migrations took place in summer-fall. Parasitologic studies on 323 animals showed that the abundance index of the pre-imago stage of the tick Dermacentor marginatus was highest in those rodents that moved in July or Aug. This favored the appearance of spring and summer-fall epizootics of tularemia which started in the coastal zone and remained localized while there were few muskrats (1956-57), but spread over the whole lake area (1958) when they became numerous.--From abstr.

Krasovskii, L. I. [CINERARIA PALUSTRIS, A VALUABLE FOOD PLANT FOR MUSKRATS.] In: (Rationalization of Hunting.) Tsentrosoyuz (Moscow) 9: 116-119. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 13I165. Transl. of Russian abstr.] WR 111: 24

Because it produces vegetation early in the year and has a fairly large total green weight (2 kg/1 m^2), Cineraria palustris can serve as a spring food for muskrats.

Linde, Arlyn F. (Wis. Conserv. Dept., Madison.) MUSKRAT PELT PATTERNS AND PRIMENESS. Wis. Conserv. Dept., Tech. Bull. no. 29. 66 p., 18 figs. 1963. WR 111: 25

Adult pelts have an irregular, blotchy, mosaic type of pattern; immature pelts have large areas with solid blocks of color; and the dorsal pattern is symmetrical and linear. Sex is distinguished by the presence or absence of teat marks on flesh side of pelt. These aging and sexing criteria were found usable with an error of less than 2%. Because of repetition of patterns in immature animals and individual variations in patterns and time of occurrence, a practical method of precise aging of immatures could not be devised. Likewise, pelts could not be dated as to the time of year they were taken. Development of the hair of immatures is dependent on the age and physical condition of the animal but not on the time of year nor the weather. Seasonal pelt changes are restricted to adult muskrats and the late transition period between adult and immature stages. Certain forms of physical stress, such as insufficient food, sickness, pregnancy and parturition, have a suppressing effect on hair growth.

Mol, L. Van. [MUSKRAT CONTROL IN THE POLDERS BY MEANS OF TRAPS.] Ghent. Landbhogesch. Meded. 26(3): 1211-1221. 1961. [From Bibliog. Agr. 27(6), 1963. In Flemish.] WR 111: 25

Reimov, R. [MUSKRATS IN LAKES OF THE KHOREZMSKAYA OBLAST (BIOLOGY AND TRAPPING). 1.] Vestnik Karakalpaksk. Fil. Akad. Nauk Uzbek SSR 1: 50-57. 1960. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 13I163. Transl. of Russian abstr.] WR 111: 25

As a result of the introduction and subsequent natural migration, almost all lakes in the area became populated with muskrats. Trapping during 1957-1959 yielded 14,250 muskrats.

Reimov, R. [MUSKRATS IN LAKES OF THE KHOREZMSKAYA OBLAST (BIOLOGY AND TRAPPING). 3.] Vestnik Karakalpaksk. Fil. Akad. Nauk Uzbek SSR 1: 16-26. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 13I164. Transl. of Russian abstr.] WR 111: 25

Tsivilev, N. S. [ON FREEZING CHARACTERISTICS OF LAKES IN THE BARGUZIN VALLEY AND THEIR EFFECT ON HIBERNATION OF MUSKRATS.] In: (Rationalization of Hunting.) Tsentrosoyuz (Moscow) 9: 124-126. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 13I166. Transl. of Russian abstr.] WR 111: 25

RACCOON, RINGTAIL, COATI

Cunningham, Earl Ray. STUDY OF THE EASTERN RACCOON, PROCYON LOTOR (L.), ON THE ATOMIC ENERGY COMMISSION SAVANNAH RIVER PLANT. M.S. thesis, Univ. Ga. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 25

Kauffmann, John H. ECOLOGY AND SOCIAL BEHAVIOR OF THE COATI, NASUA NARICA, ON BARRO COLORADO ISLAND, PANAMA. Univ. Calif. Publ. Zool. 60(3): 95-222, illus. 7 Dec. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 25

Montgomery, G. G. (Ill. Nat. Hist. Surv., Urbana.) FREEZING, DECOMPOSITION, AND RACCOON LENS WEIGHTS. J. Wildl. Mgmt. 27(3): 481-483, 1 fig. July 1963. WR 111: 25

Abstract: Freezing of lenses from adult and young raccoons (Procyon lotor) for more than 1 day before fixation reduced dry weights of the lenses, whereas decomposition for more than 2 days reduced the weights of lenses from young

raccoons. Ninety-eight percent of lenses fixed when the animals were killed had smooth, shiny surfaces and lacked black rings at their equators. All lenses showing weight losses had dull surfaces, black rings at their equators, or both.

MUSTELIDS

Mead, R. A. (Univ. Calif., Davis.) SOME ASPECTS OF PARASITISM IN SKUNKS OF THE SACRAMENTO VALLEY OF CALIFORNIA. Am. Midland Nat. 70(1): 164-167. July 1963. WR 111: 26

Ectoparasites were collected from 45 striped and 14 spotted skunks, and endoparasites were collected from 15 striped and 7 spotted skunks. Differences were noted in the parasitic fauna of the 2 species.--From abstr.

Meyerriecks, Andrew J. (Univ. South Fla., Tampa.) FLORIDA OTTER PREYS ON COMMON GALLINULE. J. Mammal. 44(3): 425-426. Aug. 1963. WR 111: 26

Detailed description is given of a wild otter catching a Gallinula chloropus and eating part of it.

Timofeev, V. V. [SETTLEMENT OF THE SABLE IN EASTERN SIBERIA.] Ratsionalizatsiya Okhotn. Promysla 9: 34-40. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 10I223. Transl. of Russian abstr.] WR 111: 26

Verts, B. J. (Ill. Nat. Hist. Surv., Urbana.) EQUIPMENT AND TECHNIQUES FOR RADIO-TRACKING STRIPED SKUNKS. J. Wildl. Mgmt. 27(3): 325-339, 17 figs. July 1963. WR 111: 26

Abstract: The radio-tracking system described by Cochran and Lord (1963) was modified for use with striped skunks (Mephitis mephitis). A transmitter and collar were designed to fit skunks. A standardized procedure for constructing transmitters was devised and a step-by-step outline of the procedure described. A diode receiver was constructed and used to test transmitters under construction. After calibration of the meter on the diode receiver, it was possible to predict the range of the transmitters directly from output values indicated by the meter. Use of the tracking system in the field indicated that for tracking striped skunks a mobile receiver mounted in an automobile was superior to a portable receiver. Positions of animals were determined by triangulation of bearings taken from several locations. Accuracy of positions determined in this manner was about ±25 feet at 1/4 mile and about ±25 yards at 1/2 mile. In some cases, different types of skunk activity could be distinguished by means of variations in the rhythm of the received patterns of signal intensity.

Yazan, Yu. P. [IS THE MARTEN RESPONSIBLE FOR THE DIMINISHING SQUIRREL POPULATION?] Zool. Zhur. 41(4): 633-635. 1962. [From Biol. Abstr. 41(5), 1963. (In Russian) with English summ.] WR 111: 26

During 8 years near the Pechora-Llych State game preserves, 497 intestinal tracts and 172 droppings of forest marten were studied. The squirrel takes third place in forest marten feeding (19.7% winter and 3.8% in summer), after voles and Tetraonidae. Squirrel populations depend not on the number of martens on the hunting grounds, but mainly upon the seed crop of coniferous trees.

DOGS, WOLVES, FOXES

Chirkova, A. F. [THE PHENOLOGY OF THE TIMES OF REPRODUCTION OF THE COMMON FOX IN DIFFERENT NATURAL ZONES OF THE USSR.] Proc. Phenological Conf. (Leningrad), 1957. Gidrometeoizdat. p. 382-387. 1960. [From Biol. Abstr. 42(1), 1963, from Referat. Zhur., Biol., 1961, no. 4D694. Transl. of Russian abstr.] WR 111: 26

Geographic zonality is observed in times of reproduction of foxes.--From abstr.

Makridin, V. P. [THE WOLF IN THE YAMAL NORTH.] Zool. Zhur. 41(9): 1413-1417. Sept. 1962. [From J. Mammal. 44(2), 1963. In Russian with English summ.] WR 111: 27

CATS

Saunders, Jack K., Jr. (Northern State Teachers Coll., Aberdeen, S. Dak.) FOOD HABITS OF THE LYNX IN NEWFOUNDLAND. J. Wildl. Mgmt. 27(3): 384-390. July 1963. WR 111: 27

The food habits of the lynx were studied during 1956-61 in Newfoundland through the examination of 206 digestive tracts and 220 scats. Remains of snowshoe hares occurred in 75% of the specimens at all seasons, birds in 21%, mice in 14% and carrion in 20%. Based on tracking studies, information is given on hunting habits of the lynx.--From abstr.

Saunders, Jack K., Jr. (Northern State Teachers Coll., Aberdeen, S. Dak.) MOVEMENTS AND ACTIVITIES OF THE LYNX IN NEWFOUNDLAND. J. Wildl. Mgmt. 27(3): 390-400, 3 figs. July 1963. WR 111: 27

Information on movements, home range, and activities was obtained from tagging studies and from tracking in snow. Fifty lynxes were tagged; 31 were recaptured a total of 52 times. Movements of tagged animals averaged 2 miles and ranged from 0 to 64 miles. Tracking studies revealed a cruising radius of 2.6 miles. Three home ranges determined from tracking studies were 6, 7, and 8 square miles in area. The shape of the home ranges apparently was influenced by topography.--From abstr.

BIG GAME, GENERAL

Barmore, William Jennings, Jr. AN APPRAISAL OF THE BIGHORN SHEEP AND THEIR RANGE IN DINOSAUR NATIONAL MONUMENT. M.S. thesis, Utah State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 27

Bergerud, Arthur T. (Agr. & Resources, St. John's, Newfoundland.) AERIAL WINTER CENSUS OF CARIBOU. J. Wildl. Mgmt. 27(3): 438-449, 8 figs. July 1963. WR 111: 27

Abstract: During 1957-61, 400 hours of flying time were spent in censusing caribou (Rangifer tarandus) in Newfoundland and Labrador. The standard strip census method was used with two rear-seat observers, each scanning a 1/4-mile strip. In northern Labrador, the strip was increased to 1/2 mile. Caribou were reported by rear-seat observers through an intercommunication system to the front-seat navigator, who plotted the animals on large-scale maps or aerial photographs. An estimation was made of the caribou missed by the rear-seat observer by comparing the results of three observers scanning the same strip. Herd structure and distribution were affected by snow cover. Shallow snow depths resulted in low, uniform densities and large herd areas. Densities and heterogeneity were increased when soft snow levels were higher. One herd of 2,000 animals received 88 percent aerial coverage over a 2-day period. Statistics for caribou per square mile were determined at various sampling intensities, using three systematically spaced transect patterns and a random flight design, and compared with figures secured with 88 percent aerial coverage in the systematic design and 79 percent aerial coverage in the random design.

Bigalke, R. C., and J. A. Bateman. (Alexander McGregor Memorial Museum, Kimberley, Cape Province, Union South Africa.) ON THE STATUS AND DISTRIBUTION OF UNGULATE MAMMALS IN THE CAPE PROVINCE, SOUTH AFRICA. Ann. Cape Provincial Museums 2: 85-97. 1962. WR 111: 27

The results of a questionnaire survey of ungulate mammals on farms in 55 Divisions in the eastern and northern parts of the Cape Province are reported. Both population estimates and percentage occurrence give a rough idea of status and distribution.--From summ.

Blood, Donald A. (Canadian Wildl. Serv., Edmonton, Alberta.) SOME ASPECTS OF BEHAVIOR OF A BIGHORN HERD. Canadian Field-Nat. 77(2): 77-94, 5 figs. Apr.-June 1963. WR 111: 28

Summer range was in alpine and subalpine zones, and winter range was in grasslands of the Douglas fir zone. Ewe lambs selected more rugged terrain than rams. Ewes and rams occupied different ranges, seemingly because of environmental preferences. Average number of sheep in a group was 9.3. Rutting and lambing were confined to the general area of the winter range. The peak of rutting was in last half of Nov., and lambing extended from late Apr. to mid-June.

Chernyavskii, F. B. [THE TAXONOMY AND HISTORY OF SNOW SHEEP OF THE OLD AND NEW WORLDS.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 67(6): 17-26. 1962. [From Biol. Abstr. 42(4), 1963. (In Russian) with English summ.] WR 111: 28

Ee, C. A. van. (Bloemfontein Zoo, Orange Free State, Union South Africa.) THE DISTRIBUTION OF UNGULATES IN THE ORANGE FREE STATE. Ann. Cape Provincial Museums 2: 53-55. 1962. WR 111: 28

A very brief listing of the natural populations of ungulates occurring in the Orange Free State.--W. T. Van Velzen.

Eiberle, K. BEOBACHTUNGEN ÜBER DAS VERHALTEN DES REHWILDES. [OBSERVATIONS ON THE BEHAVIOR OF ROE DEER.] Schweiz. Zeit. Forstw. 113(11): 660-668, illus. 1962. [From Biol. Abstr. 42(4), 1963. (In German).] WR 111: 28

The distribution of roe deer on a 137-ha forest compartment in Aargau (Argovie), Switzerland, was studied intensively by frequent observations during the winters 1960-1961 and 1961-1962. Recorded were sex, age class, number of animals in a group (1-4), location and exposure. The average population for the 2 years was 13 bucks and 21 does. The population density varied widely with topography and forage conditions. Determination of proper stocking rates should take account of local variations. Heavy reduction of young deer is desirable not only to limit total numbers, but also to obtain a distribution that will result in more favorable winter environment for the deer.--W. N. Sparhawk.

Emerson, K. C. A NEW SPECIES OF MALLOPHAGA FROM THE BIGHORN SHEEP. J. Kans. Entomol. Soc. 35(4): 369-370, illus. Oct. 1962. [From J. Mammal. 44 (3), 1963.] WR 111: 28

Eygenraam, J. A. (Instituut voor toegepast biologisch onderzoek in de natuur, Arnhem, Holland.) HET SOCIALE LEVEN VAN EDELHERTEN (CERVUS ELAPHUS L.) [THE SOCIAL LIFE OF RED DEER (CERVUS ELAPHUS L.).] Lutra 5(1): 1-8, 5 figs. 1963. [In Dutch with English and German summ.] WR 111: 28

Maternal care extends to the third and possibly the fourth year of life of the young. Young are then fully grown.--From summ.

Forrester, Donald J. (Mont., State Univ., Missoula.) LAND MOLLUSCA AS POSSIBLE INTERMEDIATE HOSTS OF PROTOSTRONGYLUS STILESI, A LUNGWORM OF BIGHORN SHEEP IN WESTERN MONTANA. Proc. Mont. Acad. Sci. 22: 82-92, 1 fig. 1962. WR 111: 28

Evidence presented in the literature suggests that land mollusks serve as intermediate hosts for Protostrongylus stilesi, but no infections were observed among mollusks collected on 10 areas where bighorn sheep occur, and attempts to infect 50 mollusks were unsuccessful.

Galbreath, E. C., and H. Stein. BISON OCCIDENTALIS IN SOUTH DAKOTA. Proc. S. Dak. Acad. Sci. 41: 41-43. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 28

Hey, D. THE ELEPHANTS OF THE KNYSNA FOREST. African Wild Life 16(2): 101-108. 1962. [From Biol. Abstr. 42(4), 1963.] WR 111: 28

Kazenevskii, P. F. [THE DEATH OF WILD UNGULATES DURING THE WINTER OF 1955-56.] Bull. Moscow Obshch. Ispit. Prirody 66(6): 147-148. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 11I211. Transl. of Russian abstr.] WR 111: 29

A report of the almost complete extermination of the punctate deer (2 of a herd of 50-60 survived) during the harsh snowy winter of 1955-56 in Zhiguli where they had been introduced in 1938.

Kettlitz, W. K. (Transvaal Dept. Nature Conserv., Pretoria, Transvaal, Union South Africa.) THE DISTRIBUTION OF SOME OF THE LARGER GAME MAMMALS IN THE TRANSVAAL (EXCLUDING THE KRUGER NATIONAL PARK). Ann. Cape Provincial Museums 2: 118-137, 15 figs. 1962. WR 111: 29

A discussion, by species, of 24 large game mammals (ungulates). Accompanying maps show the distribution of herds and the density of various species.--W. T. Van Velzen.

Ling, Kh. I. [VARIATIONS IN MOOSE POPULATION AND DISTRIBUTION IN ESTONIA DURING THE RECENT CENTURIES.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 208-216. 1959. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D683. Transl. of Russian abstr.] WR 111: 29

Moose were numerous in Estonia during the first half of the 18th century. Their number was curtailed sharply in 1751 and 1752 by an outbreak of anthrax, then increased slightly towards the end of the 18th century and remained constant at that level during the first half of the 19th century.--From abstr.

Mambetzhumaev, A. M. [ON THE ECOLOGY OF THE BUKHARIAN DEER, CERVUS ELAPHUS BACTRIANUS LYDEKKER.] Zool. Zhur. 40(11): 1725-1731. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 16I366. Transl. of Russian abstr. Original with English summ.] WR 111: 29

The author made observations in the middle reaches of the Amu-Dar'ya in Aug.-Nov. 1957 and in Feb.-Mar. 1958, and also in the "Tigrovaya balka" Game Reservation in Oct. 1959. Twenty-seven spp. of plants were found in the contents of 4 stomachs. Rutting occurred from mid-Aug. to the end of Oct. Five species of Acarina were found on these deer.--From abstr.

Matheson, Colin. THE ROE DEER IN WALES. Trans. Cardiff Nat. Soc. 89: 5-8, illus. 1962. [From J. Mammal. 44(2), 1962.] WR 111: 29

McKenzie, James V. (State Game & Fish Dept., Bismarck, N. Dak.) 1963 ANTELOPE STATUS / 225 TO 10,000 IN 40 YEARS. N. Dak. Outdoors 26(2): 20-21, illus. Aug. 1963. WR 111: 29

During 1922-24 there were known to be only five herds, totaling 225 pronghorned antelopes, in N. Dak. By 1950, the antelope population had increased to 3,878. In 1951 an open season was declared, and permits were sold to 955 resident hunters. A harvest of 913 antelopes was made by the 955 hunters. In the 11 open seasons since 1951, slightly more than 20,000 hunters killed approximately 19,400 antelopes--a hunter success of 95%.

Mech, L. David. (2621 Oak Park Ave., Minneapolis, Minn.) TIMBER WOLF AND MOOSE OF ISLE ROYALE. Naturalist 14(2): 12-15, illus. Summer 1963. WR 111: 29

Before 1950 the moose population on Isle Royale National Park periodically increased and decreased. In about 1950, timber wolves appeared on the island. "Isle Royale National Park, with its moose, and wolf population in dynamic equilibrium, now stands out in stark contrast to most other national parks in no longer having a big-game problem. No mass starvation, no ravaged vegetation, no controlled shooting or hunting seasons spoil this park's claim to naturalness." The number of wolves on the island has remained at 21-22 for 3 years.

Murphy, Dean A. (Mo. Conserv. Comm., Columbia.) A CAPTIVE ELK HERD IN MISSOURI. J. Wildl. Mgmt. 27(3): 411-414. July 1963. WR 111: 30

Abstract: A captive herd of 103 elk was exterminated by hunting. The herd had increased from 10 elk to 103 elk after eight calving seasons. Sex and age ratios indicated some mortality. Average annual rate of increase was calculated to be 28 percent. The population density of 1 elk per 23 acres was very near the carrying capacity of the range. Acorns and grass were the most important foods in the fall diet.

Packer, Paul E. (U. S. Forest Serv., Ogden, Utah.) SOIL STABILITY REQUIREMENTS FOR THE GALLATIN ELK WINTER RANGE. J. Wildl. Mgmt. 27(3): 401-410, 8 figs. July 1963. WR 111: 30

Conclusions drawn from this study are: (1) protection from elk grazing followed by seeding has effected plant cover and soil improvements on the experimental plots; (2) management objectives for restoring and maintaining soil stability on this elk winter range include ground cover densities of at least 70% and soil bulk densities no greater than 1.04 g/cc; and (3) these objectives are expected to remain relatively stable even under the impact of higher rainfall intensities.--From abstr.

Ronéus, O., and M. Nordkvist. (State Vet. Med. Inst., Stockholm, Sweden.) CEREBROSPINAL AND MUSCULAR NEMATODIASIS (ELAPHOSTRONGYLUS RANGIFERI) IN SWEDISH REINDEER. Acta Vet. Scand. 3(3): 201-225, illus. 1962. [From Biol. Abstr. 42(1), 1963. (In English) with German and Swedish summ.] WR 111: 30

Nematode larvae, apparently of E. rangiferi, were present in various tissues of some animals. Eggs, often in large clumps, were found in the central nervous system and musculature of 6 animals and in the hypophysis of one. The presence of the nematodes could be associated with a lymphohistiocytic and eosinophilic meningitis, particularly at the junction between cervical and thoracic regions of the spinal cord, and over the brain.--From auth. abstr.

Salganskii, A. [DEER RAISING IN THE UKRAINE.] Okhota i Okhotn. Khoz. 1: 25-27. 1962. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 10I227. Transl. of Russian abstr.] WR 111: 30

Cervus elaphus, Alces alces, Pseudaxis sp., Dama vulgaris and Capreolus capreolus are the 5 spp. of deer family found in the Ukraine. Status of these species is given. Deer raising is effected through natural settlement and acclimatization, maintenance in enclosures, and domestication.

Schmid, Ed. DIE PROBLEMATIK DER WILDDICHTE. [PROBLEMS OF GAME DENSITY.] Schweiz. Zeit. Forstw. 113(11): 643-659, illus. 1962. [From Biol. Abstr. 42 (4), 1963. (In German).] WR 111: 30

The author analyzes the factors that affect the density of roe deer populations. He emphasizes the desirability of considering the social structure in planning management measures so as to eliminate the harmful effects of the "pressure factor."--W. N. Sparhawk.

Simmons, Norman M., Seymour Levy, and Jim Levy. (U. S. Fish & Wildl. Serv., Ajo, Ariz.) OBSERVATION OF DESERT BIGHORN SHEEP LAMBING, KOFA GAME RANGE, ARIZONA. J. Mammal. 44(3): 433. Aug. 1963. WR 111: 30

An ewe gave birth to a lamb in an easily accessible area containing only low shrubs. When approached by observers, the ewe moved away from the newborn lamb but remained within a radius of 100 yards.

Smirin, V. M. [COMPOSITION OF THE STOCK AND PROBLEMS OF PROTECTING THE MIDDLE ASIAN GAZELLE (GAZELLA SUBGUTTUROSE) IN THE NORTH KYZYL-KUM (DESERT).] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 67(2): 148. 1962. [From Biol. Abstr. 42(1), 1963. Transl. of Russian abstr.] WR 111: 30

Although there is complete prohibition against hunting the Middle Asian gazelle, the law is not enforced. Consequently shooting from automobiles has caused the gazelle population to be reduced to 1/3 its former number in some areas. The author recommends that hunting farms be set up so that it would be possible to limit the number of animals shot and to provide meat for the population.--From abstr.

Spuy, J. S. van der. (Nature Conserv. Sec., South West Africa.) A PRELIMINARY REPORT ON THE DISTRIBUTION AND APPROXIMATE SIZE OF POPULATION OF SOME UNGULATE MAMMALS IN SOUTH WEST AFRICA. Ann. Cape Provincial Museums 2: 41-52, 9 figs. 1962. WR 111: 31
Data from a 1960 census of kudu, gemsbok, springbok, eland, hartebeest and Hartmann's mountain zebra are mapped and discussed briefly.--W. T. Van Velzen.

Stewart, D. R. M., and J. Stewart. (Kenya Game Dept., Nairobi.) THE DISTRIBUTION OF SOME LARGE MAMMALS IN KENYA. J. East Africa Nat. Hist. Soc. & Coryndon Museum 24(3): 1-52, illus. June 1963. WR 111: 31
Forty-one maps are given showing the present distribution and the distribution 75 years ago of some large mammals in Kenya. Some reduction of range is shown for most species.

Temnoev, N. I. [A GEOBOTANICAL INSPECTION IN NORTHERN YAKUTIYA IN CONNECTION WITH LAND MANAGEMENT OF REINDEER PASTURES.] Bot. Zhur. 46(10): 1497-1503. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 13V199. Transl. of Russian abstr.] WR 111: 31
Geobotanical surveys are made from airplanes and horseback. Carrying capacities for reindeer are estimated from general herding studies. An aerial observer should be able to process 1,000,000 ha/month. The reindeer capacity is calculated only for the projected season. The boundaries of the area are determined in conjunction with the land utilization specialist.

Vincent, J. (Dept. Wild Life Conserv., Natal, Union South Africa.) THE DISTRIBUTION OF UNGULATES IN NATAL. Ann. Cape Provincial Museums 2: 110-117, 1 fig. 1962. WR 111: 31
The distribution of 39 species of ungulates is discussed in text and a summary of each individual species listed in systematic order.--W. T. Van Velzen.

Wilbert, Don E. SOME EFFECTS OF CHEMICAL SAGEBRUSH CONTROL ON ELK DISTRIBUTION. J. Range Mgmt. 16(2): 74-78. Mar. 1963. WR 111: 31
Increases in elk use of areas treated for sagebrush control ranged from 40% to 90%. The chemical control definitely decreased the quantity of sagebrush and increased the quantity of grass.

DEER (Odocoileus)

Anderson, Roy C. (Ontario Res. Found., Toronto, Ontario, Canada.) THE HELMINTH AND ARTHROPOD PARASITES OF THE WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS): A GENERAL REVIEW. Trans. Roy. Canadian Inst. 34(1): 57-92. 1962 [1963]. [From Biol. Abstr. 42(5), 1963.] WR 111: 31
A critical review of the literature on systematics, incidence, distribution, transmission, and pathogenicity of seventy-five species.--E. H. Craigie.

Anonymous. TRAP DEER BY AIR! La. Conservationist 15(7&8): 14-15, illus. July-Aug. 1963. WR 111: 31
During a 3-day trapping experiment in La. marshes, 104 deer were captured and moved through the effective combination of helicopter, airboat, boats and trucks at an average cost not exceeding $10 each.

Christensen, Earl Martin. A PHYTOSOCIOLOGICAL STUDY OF THE WINTER RANGE OF DEER OF NORTHERN WISCONSIN. Ph.D. thesis, Univ. Wis. 1955. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 31

Christensen, Earl M. (Brigham Young Univ., Provo, Utah.) HERBACEOUS VEGETATION IN LOWLAND WINTER HABITATS OF WHITE-TAILED DEER IN NORTHERN WISCONSIN. Ecology 44(2): 411-414, 3 figs. Spring 1963. WR 111: 32
Sixteen spp. of plants increased in frequency along with increase in deer population, 6 spp. decreased, response of 10 spp. was variable and 23 spp. had essentially same frequencies in high and low deer populations.--From summ.

Flyger, Vagn F., Theodore R. Ridgeway, Annie K. Prestwood, and Frank A. Hayes. (Nat. Res. Inst., Box 1510, State Office Bldg., Annapolis, Md.) TRAUMA WITH SECONDARY SHOCK IN FOUR WHITE-TAILED DEER. Chesapeake Sci. 3(4): 236-243, 3 figs. Dec. 1962. WR 111: 32
Four deer were found dead or dying in a barnyard in Baltimore County, Maryland. "The deer were driven by dogs into a fence with sufficient force to cause fatal trauma."

Friend, Milton, Edward T. Kroll, and Howard Gruft. (N.Y. State Conserv. Dept., Albany.) TUBERCULOSIS IN A WILD WHITE-TAILED DEER. N.Y. Fish & Game J. 10(1): 118-123, 5 figs. Jan. 1963. WR 111: 32
Bovine tuberculosis was demonstrated in a white-tailed deer killed by a hunter in Delaware County, N.Y., during the 1961 open season.--From abstr.

Gibbens, R. P., and A. M. Schultz. (Univ. Calif., Berkeley.) BRUSH MANIPULATION ON A DEER WINTER RANGE. Calif. Fish & Game 49(2): 95-118, 9 figs. Apr. 1963. WR 111: 32
Areas of mature brush mashed during winter months were treated by burning in early spring, burning in late spring, burning in fall, and leaving unburned. Production of browse in unmanaged brush stands ranged from 13 to 106 pounds per acre. Yields of browse were increased by all treatments. Magnitude of increase depended on kinds and density of plants; yields ranged from 80 to 2,765 pounds of browse per acre on managed areas.

Gruell, George E., and Nick J. Papez. (Nev. Fish & Game Dept., Elko.) MOVEMENTS OF MULE DEER IN NORTHEASTERN NEVADA. J. Wildl. Mgmt. 27(3): 414-422, 4 figs. July 1963. WR 111: 32
Abstract: The migratory habits of mule deer (Odocoileus hemionus) in typical basin-and-range country of northeastern Nev. were studied for 6 years, 1955-60. In all, 789 deer were marked, 438 with bells, on 12 different winter ranges. Sightings and kill returns indicated that individual deer tended to return each year to the same winter and summer ranges. Often, deer wintering together scattered widely to different summer ranges, and deer on a particular summer range often moved to widely separated winter ranges. Many migrating deer traveled far past potential destinations; some fall migrants bypassed winter ranges 5 or 10 miles distant, and moved 80 or 90 miles farther. Migrants from other ranges did the same, only in opposite directions, thus forming a crisscross migration. There appeared to be little topographic orientation with respect to major drainages and mountain ranges. Management implications of the scattered, crisscross migrations are discussed.

Jensen, Anthony Svend. DEER FOOD PLANTS IN PINE PLANTATIONS OF ALACHUA COUNTY, FLORIDA, AND VICINITY. M.S. thesis, Univ. Fla. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 32

Low, William A., and I. McT. Cowan. (Univ. British Columbia, Vancouver.) AGE DETERMINATION OF DEER BY ANNULAR STRUCTURE OF DENTAL CEMENTUM. J. Wildl. Mgmt. 27(3): 466-471, 4 figs. July 1963. WR 111: 32
Incisors of mule deer (Odocoileus hemionus) that have been decalcified, sectioned, and stained reveal annulations in the cementum that are clearly referable to age. Using this technique along with known month of death, it is possible to estimate age to the nearest month.--From abstr.

Montgomery, G. G. (Pa. State Univ., University Park.) NOCTURNAL MOVEMENTS AND ACTIVITY RHYTHMS OF WHITE-TAILED DEER. J. Wildl. Mgmt. 27(3): 422-427, 2 figs. July 1963. WR 111: 33

Abstract: The nocturnal movements and activity rhythms of white-tailed deer (Odocoileus virginianus) were studied during all months of 1958 by observing marked and unmarked deer on a 3,000-acre area in central Pa. Deer spent the days in wooded parts of the area, but began to move into open fields 1 or more hours before sunset in winter and during the hour of sunset in summer. Before bedding, they grazed in open fields for about 4 hours after sunset in winter and for 7-8 hours after sunset in summer. They usually bedded in fields near the lower limits of their ranges. Seasonal changes in timing of the peak of nocturnal bedding may have been related to seasonal changes in the time when the evening feeding period began. Deer usually moved back to the woods just before dawn.

Richens, Voit B. AN ECOLOGICAL AND MANAGEMENT STUDY OF THE DAGGETT DEER HERD OF NORTHEASTERN UTAH. M.S. thesis, Utah State Univ. 1961. WR 111: 33

Shaw, Harley. (Idaho Coop. Wildl. Res. Unit, Moscow.) INSECTIVOROUS WHITE-TAILED DEER. J. Mammal. 44(2): 284. May 1963. WR 111: 33

Five instances reported of mid-winter digging through snow by deer for wintering colonies of lady-bird beetles (Hippodamia convergens). Three of eight deer collected during midwinter contained noticeable amounts of these beetles in the rumen contents.

Strawn, Gary Dee. SOME NUTRITIONAL STUDIES WITH MALE WHITE-TAILED DEER. M.S. thesis, Pa. State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 33

Wall, Bernard E. DEER UTILIZATION OF GRASSLAND FORBS. M.S. thesis, Univ. Mich. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 33

Zalunardo, Raymond Alfred. THE RANGE AND MOVEMENTS OF MULE DEER IN A CENTRAL OREGON HERD. M.S. thesis, Oreg. State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 33

MAMMALS--MARINE

Boyd, J. Morton. SEASONAL OCCURRENCE AND MOVEMENTS OF SEALS IN NORTH-WEST BRITAIN. Proc. Zool. Soc. London 138(3): 385-404. 1962. [From Biol. Abstr. 42(4), 1963.] WR 111: 33

Clarke, Robert. WHALE OBSERVATION AND WHALE MARKING OFF THE COAST OF CHILE IN 1958 AND FROM ECUADOR TOWARDS AND BEYOND THE GALAPÁGOS ISLANDS IN 1959. Norsk Hvalfangst-Tidende (Norwegian Whaling Gazette) 51(7): 265-287. July 1962. [From J. Mammal. 44(2), 1963.] WR 111: 33

Crisp, D. T. THE TONNAGES OF WHALES TAKEN BY ANTARCTIC PELAGIC OPERATIONS DURING TWENTY SEASONS AND AN EXAMINATION OF THE BLUE WHALE UNIT. Norsk Hvalfangst-Tidende (Norwegian Whaling Gazette) 51(10): 389-393. Oct. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 33

Essapian, Frank S. (Communication Res. Inst. St. Thomas, Miami, Fla.) OBSERVATIONS ON ABNORMALITIES OF PARTURITION IN CAPTIVE BOTTLE-NOSED DOLPHINS, TURSIOPS TRUNCATUS AND CONCURRENT BEHAVIOR OF OTHER PORPOISES. J. Mammal. 44 (3): 405-414. Aug. 1963. WR 111: 33

Abstract: Two females experienced difficulty while in labor. One birth resulted in cephalic presentation. The dominant bull's behavior underwent abrupt change during the parturition period. The abnormal birth and breathing at birth are discussed.

Ivashin, M. V. (All-Union Sci.-Res. Inst. Marine Fish. & Oceanog., Moscow, USSR.) [MARKING HUMPBACK WHALES IN THE SOUTHERN HEMISPHERE.] Zool. Zhur. 41 (12): 1848-1858, maps. 1962. [From Biol. Abstr. 42(6, pt. 1), 1963. (In Russian) with English summ.] WR 111: 34

It is suggested that the whales remain in the region of hibernation for 2-3 months, on the areas of fattening about 4 months and that their migration takes 5-6 months. The direction and velocity of humpback migration in summer depend upon several factors and undergo a change from 1.4 to 28.0 miles per 24 hours. The velocity of motion during seasonal migrations is much higher, up to 7.5 miles per hour. The data on the recovery of marks (S. Tanaka method) do not allow judgement of the population size because of considerable variations in results.--From auth. abstr.

Kenyon, Karl W., and Clifford H. Fiscus. (US F&WS, Seattle, Wash.) AGE DETERMINATION IN THE HAWAIIAN MONK SEAL. J. Mammal. 44(2): 280-281. May 1963. WR 111: 34

"It may be concluded that in the subtropical [Monachus schauinslandi] fasting, probably during molt, causes visible annular interruptions in the deposition of cementum and dentin which may be used as an indication of age. In the specimens studied, the pulp canal of the canines appeared to have filled completely at the relative early age of about 4 or 5 years as indicated by visible layers in the dentin."

Laws, R. M. AGE DETERMINATION OF PINNIPEDS WITH SPECIAL REFERENCE TO GROWTH LAYERS IN THE TEETH. Z. Säugetierk. 27(3): 129-146, illus. July 1962. [From J. Mammal. 44(2), 1962.] WR 111: 34

Lilly, John C. VOCAL BEHAVIOR OF THE BOTTLENOSE DOLPHIN. Proc. Am. Philos. Soc. 106(6): 520-529. 12 Dec. 1962. [From J. Mammal. 44(3), 1963.] WR 111: 34

Mathisen, Ole A., and Ron J. Lopp. (Univ. Wash., Seattle.) PHOTOGRAPHIC CENSUS OF THE STELLER SEA LION HERDS IN ALASKA, 1956-58. US F&WS, Spec. Sci. Rept.--Fisheries no. 424. 20 p., 7 figs. 1963. WR 111: 34

An aerial photographic technique for censusing herds of Steller sea lions (Eumetopias jubata) in Alaska is described. The minimum number of sea lions from Cape St. Elias to the Islands of the Four Mountains was estimated to be 110,000, based on photographic censuses of rookeries and hauling grounds in 1957.--From abstr.

Wijngaarden, A van. (State Inst. Nat. Conserv. Res., Soestdukseweg 33, Bilthoven-Noord, Netherlands.) THE MEDITERRANEAN MONK SEAL. Oryx 6(5): 270-273, map. Oct. 1962. WR 111: 34

The monk seal (Monachus monachus) is an important potential source of skins, meat and oil. Recommendations are given for its study and protection.

Yablokov, A. V. [THE "SENSE OF SMELL" OF MARINE MAMMALS.] Tr. Soveshch. Ikhtiol. Komis. Akad. Nauk SSSR 12: 87-93. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 4I214. Transl. of Russian abstr.] WR 111: 34

Zenkovich, B. A. [OBSERVATIONS OF MARINE MAMMALS AND OTHER ANIMALS DURING THE ANTARCTIC EXPEDITION OF THE USSR ACADEMY OF SCIENCES (1957-58).] Trudy Soveshchanii Ikhtiol. Komissiya Akad. Nauk SSSR 12: 23-24. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I272. Transl. of Russian abstr.] WR 111: 34

Benson, C. W., M. P. S. Irwin, and C. M. N. White. (Game & Fisheries Dept., Chilanga, Northern Rhodesia.) THE SIGNIFICANCE OF VALLEYS AS AVIAN ZOOGEOGRAPHICAL BARRIERS. Ann. Cape Provincial Museums 2: 155-189, 2 figs. 1962. WR 111: 35

Consideration is devoted mainly to major valleys and rifts in Rhodesia and Nyasaland. A study of avian distribution demonstrates all are significant barriers to dispersal of species.--From summ.

Jozefik, M. [METHODS OF THERMIC MEASUREMENTS OF BIRDS IN THEIR NATURAL HABITATS.] Ekologia Polska (Warsaw) Ser. B, 5(1): 23-34, 5 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 35

Psychometric Assman thermometers of different sizes were used, depending on the size of the bird. Measurements of temperature were made in the rectum and esophagus immediately after killing the bird by shot. The curve in fall of temperature immediately after being killed was drawn for several species. Data are given for the temperature of night-herons at different moments of functioning of the organism (during feeding, after flight, during mating-time, when building nests, etc.).

Land, Hugh C. (Northwestern State Coll., Natchitoches, La.) A TROPICAL FEEDING TREE. Wilson Bull. 75(2): 199-200. June 1963. WR 111: 35

From late June to early Aug., 57 spp. of birds were observed in Guatemala in or beneath a tree, identified as Miconia trinervia. Many of the birds were feeding on the fruit on the tree but others were feeding on insects associated with the fruit or were attracted by the presence of other birds.

Moynihan, M. (Canal Zone Biol. Area, Drawer C, Balboa, Canal Zone.) INTERSPECIFIC RELATIONS BETWEEN SOME ANDEAN BIRDS. Ibis 105(3): 327-339. July 1963. WR 111: 35

Four species of honeycreepers (Diglossa lafresnayei, D. carbonaria, D. cyanea and Conirostrum cinereum) compete with each other for food. Individuals of these species refrain from approaching each other, except members of their own families, but they readily approach birds of species not of this complex. Individuals seldom show hostility toward other species of this complex but only towards others of their own and all other species. Individuals of different species of this complex usually refrain from singing at the same time, but they usually ignore the songs of other species.--From summ.

Sviridenko, P. A. [NEW POSSIBILITIES FOR THE ATTRACTION OF INSECTIVOROUS BIRDS IN THE CONTROL OF HARMFUL INSECTS.] Zashchita Rast. Vreditelei i Boleznei 11: 35-37. 1961. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1962, no. 10I175. Transl. of Russian abstr.] WR 111: 35

Four years of observations in the suburbs of Kiev showed that feeding stations (woven baskets with an area of 0.1 m^2) with an unlimited supply of sunflower seed attract up to 200 great titmice (on rainy days more than 20,000 visits to the feeder were noted), while feeding with a supply limited to 150 g/day attracted not more than 15 birds. Feeding stations with an unlimited supply of food induce settling of migratory birds for nesting: they should be set up in cropland affected by harmful insects at a density of one feeding station per 150-200 ha.

Tomilin, A. G. [SOME BEHAVIORAL CHARACTERISTICS OF BIRDS DURING THE NESTING PERIOD.] Trudy Vsesoyuz. Sel'skokhoz. Inst. Zaochn. Obrazovaniya 4: 73-77. 1961. [From Biol. Abstr. 41(5), 1963, from Referat. Zhur., Biol., 1962, no. 12I180. Transl. of Russian abstr.] WR 111: 35

A description of the processes of hatching the eggs, feeding the young and cleaning the nest as performed by the speckled flycatcher, redstart and speckled magpie in 1950-54. The sequence of the changes in stimuli producing a feeding response in the young is indicated. In most cases, food stored in the nest is first brought out of it and then eaten by the chicks. Bright colored pellets placed in a redstart nest were removed from it in the following order: white, black, blue and red.

Yezerskas, L. I. [EXTRANEOUS INHABITANTS OF NEST-BOXES IN THE FOREST OF THE LITHUANIAN SSR AND THEIR INFLUENCE ON HOLE-NESTING BIRDS.] Proc. 4th Baltic Ornithol. Conf. (Riga), 1960. p. 123-128. 1961. [From Ibis 105(1), 1963. In Russian.] WR 111: 36

BIRDS--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Danilov, N. N. [QUANTITATIVE CLASSIFICATION OF BIRD FLIGHTS.] Proc. 3rd Baltic Ornithol. Conf., 1957. p. 75-80. 1959. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1961, no. 1D570. Transl. of Russian abstr.] WR 111: 36

The first visual observations of bird flights on the western slopes of the Urals, including a count of migrating individuals, were carried out in the fall of 1956 in the vicinity of Klenovoe, Bisertskoi raion, Sverdlovskaya oblast'. A total of 32,713 individuals of 33 species were noted. A quantitative classification by species and the flight periods are described. Fringilla montifringilla was most numerous (22,895 birds), then F. coelebs (5915) and Turdus musicus (1595). Corvus monedula, Anas acuta, T. viscivorus, Emberiza citrinella, T. merula, T. pilaris, Endormias morineblus, Alauda arvensis, Calcarius lapponicus, Acanthus linaria and Motacilla alba were seen in quantities of 100 to 300 specimens per sp. The remaining spp. appeared in small numbers. Flights took place most intensively during bad weather periods. The largest number of birds (10,250 individuals) were seen on the 23rd of Sept.

Davis, David E. (Pa. State Univ., University Park.) THE ROLE OF TEMPERATURE AND LIGHT IN MORNING ARRIVAL OF STARLINGS. Ecology 44(2): 397-398. Spring 1963. WR 111: 36

No observable relationship was found to temperature or to photometer reading in the time of morning arrival in a residential district of Baltimore, Md., of wintering starlings. The birds, however, arrived 5.5 minutes earlier on clear than on cloudy days.--From summ.

Delvingt, Willi. DIE BEZIEHUNGEN ZWISCHEN BRUTGRÖSSE UND JUNGENGEWICHT BEIM STAR. [THE RELATIONS BETWEEN LARGE BROODS AND THE WEIGHTS OF THE YOUNG IN STARLINGS.] J. Ornithol. 103(2/3): 260-265. 1962. [From Biol. Abstr. 42 (4), 1963. (In German).] WR 111: 36

Eliassen, E. (Univ. Bergen, Bergen, Norway.) PRELIMINARY RESULTS FROM NEW METHODS OF INVESTIGATING THE PHYSIOLOGY OF BIRDS DURING FLIGHT. Ibis 105(2): 234-237, 1 fig. Apr. 1963. WR 111: 36

Physiology of birds in flight is discussed in relation to energy metabolism and heat regulation measured in a bird gliding in a specially constructed wind tunnel and to cardio-vascular responses measured in flying birds by telemetric methods.--From summ.

Ficken, Millicent S., and Robert W. Ficken. (Univ. Md., College Park.) THE COMPARATIVE ETHOLOGY OF THE WOOD WARBLERS: A REVIEW. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 103-122, 1 fig., 1 pl. 1962. WR 111: 36

A useful review of the ethology of the wood warblers. Seventy-three references are cited.

Harmata, W. [THE EFFECT OF THE COLD SPRING OF 1958 ON THE MIGRATION OF CERTAIN SPECIES OF BIRDS IN CRACOW AND DISTRICT.] Zeszyty Naukowe Uniwersytetu Jagiellonskiego (Cracow) 23 Zool. (4): 151-156, 1 fig. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 36

It was noticed that the normal migration to the north, north-east and east of certain birds (larks, starlings, lapwings) was restricted and that there were even signs of return migration.

Hartshorne, James M. (108 Kay St., Ithaca, N. Y.) BEHAVIOR OF THE EASTERN BLUEBIRD AT THE NEST. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 131-149, 8 figs., 2 pls. 1962. WR 111: 37
Through the use of special nesting boxes and observation blinds in the field and isolation chambers in the laboratory, observations were made of the nesting behavior of bluebirds. This article and its 20-point summary contains much original information.

Huxley, Julian, and E. M. Nicholson. (31 Pond St., Hampstead, N.W.3, England.) LAMMERGEIER GYPAETUS BARBATUS BREAKING BONES. Ibis 105(1): 106-107. Jan. 1963. WR 111: 37
A bird was seen to drop a bone from a height of 40-60 m. On inspecting the site where the bone was dropped, a regular bone-dropping area was found. Bones, most of them broken, were scattered among relatively large rocks.

Johnson, Ned K. (Univ. Calif., Berkeley.) THE SUPPOSED MIGRATORY STATUS OF THE FLAMMULATED OWL. Wilson Bull. 75(2): 174-178. June 1963. WR 111: 37
Little evidence is available to show that Otus flammeolus migrates. Hibernation is postulated.

Juhn, Mary. (Univ. Md., College Park.) AN EXAMINATION OF SOME INTERPRETATIONS OF MOLT WITH ADDED DATA FROM PROGESTERONE AND THYROXINE. Wilson Bull. 75(2): 191-197, 4 figs. June 1963. WR 111: 37
"It seems probable that molt is essentially an autonomous process, the primary seat of the cyclical renewals being the feather papilla proper.... The positive results obtained with hormone treatments have reasonably suggested internal fluctuations...in explanation of the normal molt. The case for this interpretation is, though, no longer as persuasive as once thought. Within limits, one or another environmental factor could well participate as seasonal trigger. This, however, need not necessarily be because of secretory surges but because of an autonomously changing physiology of the feather papilla which at this time exposes the organ to previously ineffective levels."

Korzhuev, P. A., N. I. Anisimova, E. V. Burko, R. I. Goncharova, and V. K. Naumenko. [ECOLOGICAL-PHYSIOLOGICAL CHARACTERISTICS OF SOME SPECIES OF WILD AND DOMESTIC BIRDS.] In: (Collection of reports read at the 2nd scientific conference of physiologists, biochemists and pharmacologists of the West Siberian Union, dedicated to the XXII Congress of the Communist Party of the Soviet Union.) Tomsk. Univ. (Tomsk). p. 64-66. 1961. [From Biol. Abstr. 42 (5), 1963, from Referat. Zhur., Biol., 1962, no. 19I191. Transl. of Russian abstr.] WR 111: 37
The musculature in wild birds was 50% of the body weight, in domestic birds, 42%; the gizzard, respectively, 10% of body weight in wild birds and 3.5% in domestic (Kholmogorsk) geese. Wild birds have more blood, bone marrow, Hb than domestic birds. The Peking duck has 6.7 g of Hb per kg body weight, the common pochard has 18 g. These differences demonstrate the decrease in energy metabolism in domestic birds in comparison with their wild compatriots, as a result of functional and morphological conversions in the organism due to domestication.--From abstr.

Lack, David. (Edward Grey Inst. Field Ornithol., Oxford, England.) MIGRATION ACROSS THE SOUTHERN NORTH SEA STUDIED BY RADAR. PART 4. AUTUMN. Ibis 105(1): 1-54, 5 figs. Jan. 1963. WR 111: 37
The data suggest that "the factors influencing the migrants are wind direction, wind-speed and cloud, in that order of importance. But because the various weather factors are linked, the radar observer in autumn in eastern England sees most migration...in clear, cold, anticyclonic weather with following winds, while he sees least migration in cloudy, warm and disturbed weather with strong opposed winds; and on most days and nights in autumn the weather is of one or other of these two types."

Lind, E. A. VERHALTEN DER MEHLSCHWALBE, DELICHON U. URBICA (L.), ZU IHREN FEINDEN. [THE BEHAVIOR OF THE HOUSE MARTIN DELICHON U. URBICA (L.) TO ITS ENEMIES.] Ann. Zool. Soc. Zool. Bot. Fennicae Vanamo 23(5): 1-38, illus. 1962. [From Biol. Abstr. 41(4), 1963. (In German) with Finnish summ.] WR 111: 38

Lofts, B., A. J. Marshall, and Albert Wolfson. (Univ. London, London, England.) THE EXPERIMENTAL DEMONSTRATION OF PRE-MIGRATION ACTIVITY IN THE ABSENCE OF FAT DEPOSITION IN BIRDS. Ibis 105(1): 99-105, 4 figs. Jan. 1963. WR 111: 38

"Under dietary conditions that experimentally prevented the accumulation of 'pre-migratory' depot fat, typical nocturnal migratory restlessness developed in the Brambling Fringilla montifringilla.... In captive controls, the rapid accumulation and subsequent utilization of body fat closely paralleled the onset and waning of nocturnal unrest."--From summ.

Marchant, S. (Rockbourne House, Alton, Hants, England.) MIGRATION IN IRAQ. Ibis 105(3): 369-398, 2 figs. July 1963. WR 111: 38

Several species of birds are considered in regard to the relative numbers of the birds during spring and fall migrations and the relation of their migrations to weather, geography, and ecology.

Matthews, G. V. T. (Wildfowl Trust, Slimbridge, Gloucestershire, England.) "NONSENSE" ORIENTATION AS A POPULATION VARIANT. Ibis 105(2): 185-197, 9 figs. Apr. 1963. WR 111: 38

"Nonsense" orientation, or the flight direction of birds at the time of disappearance from view after release, was found to vary with different populations. "The further the investigations proceed the further we seem to be from an understanding of the selective value of 'nonsense' orientations."

Mikheev, A. V. (Moscow State Pedagog. Inst., USSR.) [REGULAR PATTERNS IN THE DISTRIBUTION OF THE HIBERNATION PLACES AND MIGRATION ROUTES OF BIRD POPULATIONS.] Zool. Zhur. 41(8): 1210-1219. 1962. [From Biol. Abstr. 41(4), 1963. (In Russian) with English summ.] WR 111: 38

Each population of a given sp. of migrating bird has its own relatively steady hibernation area. This is determined both by a relative stability of climatic and ecological conditions in areas of hibernation and migration and by a certain bird attachment to them. Latter is based on conditional reflex associations of birds with environment and is more stable in respect to nesting sites than to other places where birds are dwelling in other periods. Migration routes are formed under the influence of ecological conditions in area of postnesting replacement and migrations. Variability of these conditions in course of season and throughout different years determines wide divergence of migration ways, change of migration routes, establishment of new migration routes and hibernation areas not connected with ancient distribution of given spp. during a definite period.

Payne, Roger S. (Tufts Univ., Medford, Mass.) HOW THE BARN OWL LOCATES PREY BY HEARING. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 151-159, 4 figs. 1962. WR 111: 38

Experiments indicated that barn owls located their prey by homing on the source of sounds produced by the prey animals. The theory presented requires only that the owl should orient its head in such a way that it could hear all audible frequencies of a complex sound at maximum intensity in both ears. Having attained such an orientation, the bird would automatically be facing the source of the sound with a theoretical accuracy of less than one degree.

Skokova, N. N. [SHORT REVIEW OF THE VISIBLE MIGRATIONS OF BIRDS IN THE WHITE SEA REGIONS IN 1958-1959.] Soobshch. Pribaltiiskii Komis. po Izucheniyo Migratsii Ptits, Akas. Nauk Estonsk. SSR 1: 53-59. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 17I174. Transl. of Russian abstr. Original with English summ.] WR 111: 39

In comparison with migrations on the Baltic Sea, flights over the White Sea are slight, and only at one southern point are average in numbers. Geese and passerines predominate. The general direction of the migration front is southwest. In 1958 and 1959 the flights of duck, auk, predatory birds, gulls, and a majority of species of passerines were determined. A total of 76,700 birds migrated in 1958, and 72,200 birds in 1959. The location of the shore line was of great importance for orientation, particularly for the passerines, at the time of transmigration.

Ward, P. (Univ. College, Ibadan, Nigeria, Africa.) LIPID LEVELS IN BIRDS PREPARING TO CROSS THE SAHARA. Ibis 105(1): 109-111. Jan. 1963. WR 111: 39

Fat contents are given for about 50 birds of 7 spp.

Williamson, Kenneth. (British Trust for Ornithology, 2 King Edward Street, Oxford, England.) MOVEMENTS AS AN INDICATOR OF POPULATION CHANGES. Bird Migration 2(4): 207-223. Apr. 1963. WR 111: 39

Bird movements are grouped into three categories, as follows: (1) regular and traditional migrants, (2) irruption and eruption movements and dispersion of resident stocks, and (3) vagrancy or extra-limital species. It is shown that some of the recently recorded movements first appearing to be regular migration are actually dispersion movements. It is also suggested that vagrancy is associated with dispersion movements.--From summ.

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Banks, Richard C. (Nat. Hist. Museum, San Diego, Calif.) BIRDS OF CERRALVO ISLAND, BAJA CALIFORNIA. Condor 65(4): 300-312, 5 figs. July-Aug. 1963. WR 111: 39

Sixty-nine species (31 breeding) were recorded on Cerralvo Island, in the Gulf of California. Three species are represented by endemic races.--From summ.

Cawkell, E. M., and R. E. Moreau. (Bathurst, The Gambia, Africa.) NOTES ON BIRDS IN THE GAMBIA. Ibis 105(2): 156-178. Apr. 1963. WR 111: 39

A faunal paper with some comments on avian ecology. "It was remarkable to see the extent to which the birds, both African and Palaearctic, were dependent on cleared and cultivated ground in preference to untouched woodland, which held very few species indeed."

Dobrowolski, K. [FIRST ECOLOGICAL OBSERVATIONS OF THE AVIFAUNA OF THE HEL PENINSULA AND THE BAY OF PUCK.] Ekologia Polska (Warsaw) Ser. B, 5(1): 67-75, 3 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 39

The occurrence of 83 species was described for the summer period in different habitats (sea, sea-coast, forest, meadows, bay coast). The species distinguished inhabit the marginal parts of different habitats. It was found that the sea and bay populations of sea birds are separate.

Duchits, V. N. [A STUDY OF THE BIRD LIFE OF THE UPLAND AND LOWLAND BOGS OF THE BELORUSSIAN SSR.] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 317-322. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 29I172. Transl. of Russian abstr.] WR 111: 39

Sixteen to 19 spp. nest in upland bogs (average nesting density is 1 pair per 3.2 ha), while 20-30 spp. nest in lowland bogs (1 pair per 4 ha). The birds nest later on upland bogs than lowland and there is a difference in the spp.--From abstr.

Gagina, T. N. [THE BIRDS OF EASTERN SIBERIA. (A LIST WITH DATA ON DISTRIBUTION.)] Trudy Barguzinsk. Gososndarst. Zapovednika 3: 99-123. 1961. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1962, no. 10I122. Transl. of Russian abstr. Original (in Russian) with English summ.] WR 111: 40

A list of birds (438 spp.) with indications as to their frequency and type of residence in 5 natural geographical areas.--From abstr.

Liversidge, R. (Port Elizabeth Museum, Cape Province, Union South Africa.) DISTRIBUTION OF BIRDS IN RELATION TO VEGETATION. Ann. Cape Provincial Museums 2: 143-151, 2 figs. 1962. WR 111: 40

Analysis is made of distribution patterns of 423 of the bird species of South Africa. Vegetation maps and factors influencing vegetational distribution are discussed.--From summ.

Nolan, Val, Jr. (Ind. Univ., Bloomington.) REPRODUCTIVE SUCCESS OF BIRDS IN A DECIDUOUS SCRUB HABITAT. Ecology 44(2): 305-313. Spring 1963. WR 111: 40

Of 170 nests found before incubation was begun, 21% produced at least 1 young. Statistically significant differences among species did not emerge from the small samples, nor were differences in success significant when the nests were grouped according to heights above ground. The rate of nest failure declined progressively and significantly throughout the spring and summer. About 88% of nest failures seemed to be caused by predation.--From summ.

Riabinin, S. [THE BIRDS OF LUBLIN FROM 1951-1956.] Ochrona Przyrody (Cracow) 26: 419-449, 4 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 40

Variations in the town habitat took place more rapidly and violently than variations in natural habitats and often involved rapid and violent changes in the avifauna. The author gave several examples of such changes taking place in the avifauna of Lublin. A description was given of the more important biotopes of the town of Lublin and of the species of birds occurring in them. The avifauna of this town was compared with the avifauna of woods situated between fields and with small forests.

Tomek, W. [BIRDS CONNECTED WITH THE WATER HABITAT OF THE LOWER REACHES OF THE BIALY DUNAJEC RIVER.] Przeglad Zoologiczny (Warsaw) 3(1): 63-70. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 40

An estimate was given of the numbers of resident, nesting, and migrant birds of different species, and variations in numbers were described for the period 1928-1958 for several species (including Anas platyrhynchos L., Ardea cinerea L.).

Watson, Adam. (Marischal Coll., Aberdeen, Scotland.) BIRD NUMBERS ON TUNDRA IN BAFFIN ISLAND. Arctic 16(2): 101-108, 4 figs. June 1963. WR 111: 40

During the summer of 1953 there were about 400 adult birds per square mile (260 hectares) in a Baffin Island mountain valley. Density varied greatly, from 5 birds per 10 hectares on a dry grassy area to 30 per 10 hectares locally on wet grass heath with boulders and willow shrubs. There was an excess of male redpolls, snow buntings and Lapland longspurs. Nearly all passerine birds with territories on unfavorable habitat were unmated males. Most aquatic birds paired and displayed but did not breed, probably because of late ice in the rivers and lakes. Sixty-nine per cent of the pairs of passerine birds in the study area reared young.--From summ.

Beddall, Barbara G. (2505 Bronson Rd., Fairfield, Conn.) RANGE EXPANSION OF THE CARDINAL AND OTHER BIRDS IN THE NORTHEASTERN STATES. Wilson Bull. 75 (2): 140-158, 5 figs. June 1963. WR 111: 41

During the past 15 years there has been a notable northward extension in the ranges of the cardinal, tufted titmouse, Carolina wren and mockingbird. Abandonment of farms, rising temperature and relaxation of hunting pressure are the chief factors postulated to explain this range extension. The bibliography contains 36 titles.

Burtt, Harold E. (Ohio State Univ., Columbus.) BREEDING BIRD RECORDS FOR THE 1962 FORAY. Redstart 30(2): 38-51. Apr. 1963. WR 111: 41

Using breeding bird data from 10 years of Brooks Bird Club Forays, an attempt was made to determine the relative abundance of breeding species in West Virginia. It is concluded that, "Probably the best thing to do is to continue as in the past, enjoying the hours in the field and the stimulation of team rivalry and hoping for an occasional break that will be scientifically worth while." Some good comments are given on the problems encountered in the attempted analysis.

Cramp, Stanley. (30 St. Leonard's Ave., Bedford, England.) MOVEMENTS OF TITS IN EUROPE IN 1959 AND AFTER. British Birds 56(7): 237-263, 2 figs. July 1963. WR 111: 41

Pronounced movements of tits (Parus major, P. caeruleus, and P. ater) occur during years of peak abundance, and there were notable movements in 1957 and 1959. This analysis is based on both field observations and band recoveries. Band recoveries are mapped.

Epple, A. C. (Wis. State Coll., Stevens Point.) THE EVENING GROSBEAK INVASION OF 1961-62. Passenger Pigeon 24(4): 110-124, 4 figs. Winter 1962. WR 111: 41

The 1961-62 invasion of evening grosbeaks in the U. S. was traced through use of Audubon Christmas counts and season reports, and through personal correspondence. The birds traveled southward as far as southern La., but apparently did not occur in Fla. Recoveries of banded birds indicated that there was east-west movement. The birds remained as far south as N. C. until almost the middle of May, and as far as Maine and northern Mich. until late May.

Howard, Claude R., Jr. (R.D. 2, Binghamton, N. Y.) EFFECTS OF UNHARVESTED CORN ON BIRD POPULATIONS. Kingbird 13(3): 153-154. July 1963. WR 111: 41

Daily spring counts of birds were made on an area adjacent to a corn field on two successive years (1962 and 1963). The greatly enhanced counts made in 1963 are attributed to the fact that the corn was not harvested in 1962, and birds were attracted to the area.

Il'enko, A. I. (Moscow State Univ., USSR.) [THE DEVELOPMENT OF LOCAL POPULATIONS OF GREAT TITS (PARUS MAJOR L.).] Zool. Zhur. 41(5): 736-743. 1962. [From Biol. Abstr. 41(4), 1963. (In Russian) with English summ.] WR 111: 41

Observations of banded great tits showed that 42.8-45.8% of birds disappeared from the nesting population during the summer, while 46.1-53.5% disappeared during the winter. Only 2.4% of the initially banded great tits remained after the third reproductive season. Of birds which had already reproduced, 70.9-74.5% disappeared after 1st year of observation, and 57.5% disappeared after second year. Great tits are greatly attached to their nesting sites. Constancy of pairs is determined by their attachment to nesting site and not to their mate.

Nowak, E. [OBSERVATIONS OF THE NUMBERS OF BIRDS ON GOLDAPIWC LAKE.] Zoologica Poloniae (Warsaw) 9(2-3): 161-176, 1 fig. 1958(9). [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 42

The bird fauna of the lake was divided into four groups, depending on bird numbers and the time spent on the lake. Numbers of birds and remarks on the biology and activity of each species were given.

BIRDS--ECONOMICS, CONTROL, MORTALITY

Faulkner, C. E. (Bur. Sport Fisheries & Wildl., Boston, Mass.) BIRD CONTROL AT BOSTON'S LOGAN AIRPORT. Pest Control 31(8): 26, 28, illus. Aug. 1963. WR 111: 42

Bird control at airports is best handled by removing the feature which makes the area attractive to the problem species.

Laun, H. Charles. (Stephens Coll., Columbia, Mo.) IT'S TIME FOR MUTINY ON THE BOUNTIES. [PART II.] Audubon Magazine 65(4): 232-235, illus. July-Aug. 1963. WR 111: 42

Mentions some fradulent practices used to collect bounty money. Pheasants, partridges, cuckoos and shrikes are sometimes accepted as hawks by unsuspecting county clerks. Bounties are paid in at least 33 states and 10 Canadian provinces.

Tomkins, Ivan R. (1231 E. 50th St., Savannah, Ga.) A ROYAL TERN CHOKED BY A FISH. Wilson Bull. 75(2): 198. June 1963. WR 111: 42

A dying royal tern was found to have a fish, weighing 27 grams, lodged in its gullet at the pectoral arch. "It was just too large to pass through."

BIRDS--PARASITES AND DISEASES

Borg, K., and K. Bakos. (State Med. Inst., Stockholm, Sweden.) DISSEMINATION OF MYXOMATOSIS BY BIRDS. Nord. Vet.-Med. 1963(15): 159-166, 2 figs. 1963. WR 111: 42

Virulent myxomatosis virus was demonstrated on the beaks and claws of common buzzards (Buteo buteo) and a crow (Corvus corone cornix), and it was postulated that birds transport the virus into new areas.

Galiev, R. S., and A. F. Timofeev. [A CASE OF THE DISCOVERY OF TUBERCULOSIS IN CROWS.] Izvest. Akad. Nauk Kirg. SSR, Ser. Biol. Nauk 2(7): 37-39. 1960. [From Biol. Abstr. 42(1), 1963, from Referat. Zhur., Biol., 1962, no. 14I172. Transl. of Russian abstr. Original (in Russian) with Kirghiz summ.] WR 111: 42

Tuberculosis in a crow with a greatly enlarged liver, dotted with hard, grayish-white nodules was discovered at autopsy. It is considered that wild birds infected with tuberculosis can infect domestic animals.

Grebenyuk, R. V., and E. A. Shvarts. [FLEAS AS PARASITES OF BIRDS OF KIRGHIZIA (APHANIPTERA, SIPHONAPTERA).] Akad. Nauk Kirgizskoi SSR. Inst. Zool. i Parazitol. Ptitsy Kirgizii 3: 179-186. 1961. [From Bibliog. Agr. 27(6), 1963. In Russian.] WR 111: 42

Kotel'nikov, G. A. [THE ROLE OF WILD BIRDS IN THE SPREAD OF HELMINTHIASIS AMONG DOMESTIC DUCKS.] Veterinariya 39(9): 38-40. 1962. [From Biol. Abstr. 42(1), 1963. (In Russian).] WR 111: 42

Ducks were successfully infected by feeding various spp. of Gammarus lacustris infected with Polymorphus magnus, or various spp. of Limnaea stagnalis infected with the metacercariae of various trematodes, as well as by the direct feeding of the metacercariae of Cotylurus isolated from mollusks. Subsequent epizootological studies confirmed the fact that wild ducks may be a source of helminth infection in domestic waterfowl. However, not all lakes used by wild ducks are hazardous since the intermediate invertebrate hosts may

be lacking, or the physicochemical or bioecological characteristics of the lake may prevent their infection. Furthermore, some spp. of helminths are not common to both wild and domestic waterfowl.--From abstr.

GAME BIRDS--GENERAL

Christensen, Glen C. (Nev. Fish & Game Comm., Reno.) EXOTIC GAME BIRD INTRODUCTIONS INTO NEVADA. Nev. Fish & Game Comm., Biol. Bull. no. 3. 66 p., illus. 1963. WR 111: 43

There still remains approximately 60,000 square miles of habitat in Nev. which is not permanently inhabited by upland game birds, and a search is being made to find exotic species suitable for these unoccupied habitats. Following are some species experimentally introduced: northern grey francolin (Francolinus pondicerianus interpositus), common sand grouse (Pterocles exustus hindustan), black francolin (Francolinus francolinus asiae), Afghan white-winged pheasant (Phasianus colchicus bianchii), Himalayan snow partridge (Tetraogallus himalayensis), Merriam's turkey (Meleagris gallopavo merriami), scaled quail (Callipepla squamata), imperial sand grouse (Pterocles orientalis) and seesee partridge (Ammoperdix griseogularis). The introduced chukar partridge (Alectoris graeca) filled a game deficient region and is now distributed over approximately 25,000 square miles of sagebrush-grass habitat. In the future, emphasis should be placed on the seesee partridge.

Dolbik, M. S. [RESULTS OF INVESTIGATIONS OF THE ECOLOGY OF THE PRINCIPAL GALLINACEOUS SPECIES IN BYELORUSSIA.] Proc. 4th Baltic Ornithol. Conf. (Riga), 1960. p. 85-90. 1961. [From Ibis 105(1), 1963. In Russian.] WR 111: 43

Eley Game Advisory Service. ANNUAL REPORT 1962/3 ELEY GAME ADVISORY SERVICE / FORMERLY ICI GAME SERVICES. Eley Game Advisory Serv. (Fordingbridge, Hampshire, England). 66 p., illus. [1963.] WR 111: 43

Following are some topics discussed: status of pheasant and partridge populations in 1962-63, experimental rearing of pheasants and partridges, poor survival of late-hatched pheasants, fowl pest in pheasants, effects of hard winter on waterfowl and upland game, limiting game-bird losses in grass crops, trimming hedges, cover under beech trees, nesting rafts for mallards, and a gamekeeper's training scheme.

Masson, W. V., and Robert U. Mace. (Oregon State Game Comm., Portland 5.) UPLAND GAME BIRDS. Oreg. State Game Comm., Wildl. Bull. no. 5. ii + 44 p., illus. 1962. WR 111: 43

This attractive booklet gives much information of value and interest to the hunter and bird watcher on both the Oregon history and the natural history of the 14 species of upland game birds which occur in Oregon.

McLean, Donald D. (Calif. Dept. Fish & Game, Sacramento 14.) WATER DEVELOPMENTS FOR UPLAND GAME BIRDS. Calif. Dept. Fish & Game, Game Mgmt. Leafl. no. 5. 10 p., 8 figs. [1963.] WR 111: 43

Quail and chukar partridges start using free water as soon as the succulent vegetation dries up in the warm weather of summer, and they continue to use it until green feed is again available. The need of providing water in arid regions is indicated, and several methods for doing it are described.

Rodionov, M. A. [THE REPRODUCTION OF WILD GALLINACEOUS BIRDS AND THE GROWTH OF THEIR NESTLINGS.] Nauch. Doklady Vysshei Shkoly. Biol. Nauk 3: 51-56. 1961. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1962, no. 6I206. Transl. of Russian abstr.] WR 111: 43

Delayed reproduction of Galliformes spp. in Leningrad oblast is explained by either unfavorable meteorological conditions in spring (delay up to 1 month) or by spring hunting, which destroys normal course of reproduction. An example is finding of a grouse nest with 3 eggs being brooded on 4 Aug. 1952. This can be explained only by preservation of live spermatozoa in genital passages of the female, or by the capability of the male to fertilize even at beginning of moulting. Annotated graphs are given on growth of nestlings of willow ptarmigan, grouse, and wood hen.

Romanov, A. N. [A UNIVERSAL ANIMAL TRAP FOR WILD FOWL LIVING IN PINE FORESTS.] Ratsionalizatsiya Okhotn. Promysla 9: 81-86. 1961. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1962, no. 10I99. Transl. of Russian abstr.] WR 111: 44

Description and illustrations of an animal trap constructed by the author for the capture of wild fowl living in pine forests. The trap consists of a passage-way constructed of poles. The closing mechanism consists of 2 logs and a piece of cloth stretched between them. When the trap is set the cloth is lying on the roof, but when the logs fall it closes the entrance to the passage-way. The trap is more effective than a snare. Equipped with a floor the trap can also serve as a cage.

Wolanski, S. [MORTALITY AMONG GAME BIRDS AND ITS CAUSES.] Lowiec Polski (Warsaw) 15(1090): 2-3. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 44

Information is given on loss of eggs and mortality of nestling and adult birds with remarks on causes of mortality at different stages of development. Information is also given on sex ratios in certain game birds.

QUAIL

Gray, D. L. QUAIL MANAGEMENT IN ARKANSAS. Ark. Univ. Agr. Ext. L. 331. 12 p. June 1962. [From Bibliog. Agr. 27(5), 1963.] WR 111: 44

Lewin, Victor. (Univ. Alberta, Edmonton.) REPRODUCTION AND DEVELOPMENT OF YOUNG IN A POPULATION OF CALIFORNIA QUAIL. Condor 65(4): 249-278, 18 figs. July-Aug. 1963. WR 111: 44

Weather seemed to modify the sexual cycle in ♀♀ but not in ♂♂. An earlier breeding condition of ♀♀ was associated with more precipitation and higher temperature. Males were capable of inseminating ♀♀ during a 10-week period; the laying period of ♀♀ averaged 4 weeks, well within the 10-week potential inseminating period of ♂♂. Many microorganisms were found in the caeca, and these presumably aid the adult birds in digestion of cellulose. These micro-organisms apparently reduce the growth rate of chicks. The ♂♂ averaged 7 g heavier than ♀♀ during the winter months. The ♂♂ showed a continuous weight gain during winter, with a peak of 182.5 g reached in Mar. A steady decline in weight continued from Mar. to June, and the annual low of 163 g was reached in June.

Williams, G. R. (Canterbury Agr. Coll., Canterbury, Australia.) THE STORY OF THE NEW ZEALAND CALIFORNIA QUAIL POPULATIONS. Ammohouse Bull. 1(12): 6-8, illus. 1962. [From Biol. Abstr. 42(4), 1963.] WR 111: 44

In Central Otago the number of birds fluctuate in accord with age ratios. Reasons for this phenomenon are discussed.

PHEASANTS

Airumyan, K. A. [ACCLIMATIZATION OF HUNTING PHEASANTS TO THE ARMENIAN SSR.] Izvest. Akad. Nauk Armyansk. SSR. Biol. Nauki 14(11): 45-51. 1961. [From Biol. Abstr. 42(1), 1963, from Referat. Zhur. Biol., 1962, no. 14I209. Transl. of Russian abstr. Original (in Russian) with Armenian summ.] WR 111: 44

Deaths in open cages in the fall-winter season was 14%. The period of egg-laying lasted from April 11th to the end of July. On the average each female laid 15 eggs. The hatchability of the eggs under turkeys was 39.1%. The nestlings were fed chopped chicken eggs interspersed with oak flour, egg-milk pressed cakes and greens. The death rate was 58.5%, of which 36.6% were carried away by predators. The weight of 4-month-old cocks was 1080 g with hens up to 870 g.--From abstr.

Bartonek, James Floyd. A COMPARISON OF COCK PHEASANT HARVEST AMONG AREAS HAVING DIFFERENT HUNTING PRESSURES, CACHE COUNTY, UTAH. M.S. thesis, Utah State Univ. 1962. [Osborn and others. Forest Sci. 9(3), 1963.] WR 111: 45

Besadny, Carroll D., and Frederic H. Wagner. (Wis. Conserv. Dept., Madison 1.) AN EVALUATION OF PHEASANT STOCKING THROUGH THE DAY-OLD-CHICK PROGRAM IN WISCONSIN. Wis. Conserv. Dept. Tech. Bull. no. 28. 84 p., illus. 1963. WR 111: 45

Although pheasant stocking has been decreasing or has been eliminated in most states, it has been steadily increasing in Wis. Many sportsmen's clubs feel that stocking is the only program which can hold the interest of club members, but more and more hunters are coming to realize that stocking is a put-and-take program. Wisconsin's dairy economy with its associated abundant hay acreages and pasture lands reduces the amount of secure nesting cover so vital to pheasants. Pheasant populations of this state will never be able to compete with those of South Dakota, Minnesota or Nebraska. Cock stocking through the day-old-chick program will provide the hunter in the marginal pheasant range with some hunting he could not get from natural reproduction.

Ginn, Wm. E. (Ind. Dept. Conserv., 605 State Office Bldg., Indianapolis 9.) THE RINGNECK PHEASANT IN INDIANA / ITS HISTORY, RESEARCH, AND MANAGEMENT. Ind. Dept. Conserv., Pittman-Robertson Bull. no. 6. iv + 107 p., illus. July 1962. WR 111: 45

This well-illustrated bulletin gives much information on the history and management of the ring-necked pheasant. Maps are given showing the hunting areas, relationship of pheasant populations to land use and of hunter residence to pheasant kills. Fifteen suggestions are given for management of the ring-necked pheasant in Ind. The Rural Letter Carrier's Game Survey is the chief method currently used for following trends in the pheasant population. Pheasant research in Ind. has been limited, for the most part, to a few studies dealing with releases of pen-reared birds. This bulletin consists chiefly of information gathered from the literature. Seventy-nine references are cited.

Gardner, Ken, and Fred Hartman. (Pa. Game Comm., Harrisburg.) SPECIAL RELEASE OF NEW FACTS...THE RING-NECKED PHEASANT STUDY IN PENNSYLVANIA / PROGRESS REPORT NO. 1. Pa. Game News 33(2): 28-31, illus. Feb. 1962. WR 111: 45

Of 1042 questionnaires placed on hunters' cars in study areas in Pa., 684 were returned. Replies indicated that 1467 hunters spent 4436 hours bagging 578 pheasants and lost 106 birds (18%) by crippling. Hunters using dogs bagged about 5% more game than hunters without dogs; about 8% less game was lost as cripples by hunters using dogs.

Gardner, Ken. (Pa. Game Comm., Harrisburg.) URBANIZATION IS RESTRICTING OUR PHEASANT HUNTING...OUR CHANGING PHEASANT RANGE / PROGRESS REPORT NO. 2. Pa. Game News 33(10): 12-14, illus. Oct. 1962. WR 111: 45

In 1935 it was estimated that the pheasant range in Pa. totalled 7,030,000 acres. A survey in 1962 showed a decline of 850,000 acres of which 600,000 acres was first class pheasant habitat. Highway construction, industrial development, urbanization and recreational development have all contributed to the decline.

Hartman, Fred E., and Dale E. Sheffer. (Pa Game Comm., Harrisburg.) PHEASANTS FACTS REVEALED FROM BANDS...RINGING THE RINGNECK / PROGRESS REPORT NO. 3. Pa. Game News 34(8): 15-19, illus. Aug. 1963. WR 111: 45

Almost 13,000 pheasants were banded and released in Pa. in a two-year period. For every four pheasants bagged by hunters, one was killed by an automobile. Of 700 cocks banded and released in the fall of 1961, 125 were reported bagged in the first hunting season; only one was bagged in 1962. The greatest distance traveled by a banded cock was 31 miles. One hen traveled 10 miles in 5 days.

Harper, James A. (Ill. Nat. Hist. Surv., Urbana.) CALCIUM IN GRIT CONSUMED BY JUVENILE PHEASANTS IN EAST-CENTRAL ILLINOIS. J. Wildl. Mgmt. 27(3): 362-367. July 1963. WR 111: 46

"The distribution and abundance of wild pheasants certainly may be limited by a deficiency of calcium on areas where adequate calcium is not available. However, studies that attempt to measure only the amount of available calcium-bearing grit on an area can be misleading unless the ability of the pheasant to select calcium-rich grit during periods of growth and reproduction is considered."

Kourskova, T. N. [REARING OF PHEASANTS WITH THE OBJECT OF INCREASING GAME RESERVES OF THE BYELOVYEZH FORESTS.] Proc. 4th Baltic Ornithol. Conf. (Riga), 1960. p. 97-102. 1961. [From Ibis 105(1), 1963. In Russian.] WR 111: 46

Martinson, R. Kahler. (State Game & Fish Dept., Dickinson, N. Dak.) WEATHER AND PHEASANTS IN THE SOUTHWEST / DROUGHT AND PHEASANTS DON'T MIX. N. Dak. Outdoors 26(2): 2-3, 2 figs. Aug. 1963. WR 111: 46

Production of ring-necked pheasants in N. Dak. was higher in years with relatively high rainfall in May and June. Winter survival was also higher following relatively wet summers.

GROUSE, PARTRIDGE, ETC.

F[erguson]-L[ees], I. J. (30 St. Leonard's Ave., Bedford, England.) STUDIES OF AN AGGRESSIVE CAPERCAILLE. British Birds 56(1): 19-22, 5 pls. Jan. 1963. WR 111: 46

Five cases are cited of cock capercaillies (Tetrao urogallus) attacking human beings near the territories of the birds. "In most of the cases quoted, the birds concerned lived near roads and saw people fairly frequently, as a result of which they may have grown bolder." In several cases the attacking birds were believed to be the only males in their respective areas, and it was suggested that isolation from rivals might be the explanation. "With no rivals to attack or display against, the aggressive drive of such birds might be turned towards any other large moving object."

Gilliard, E. T. ON THE BREEDING BEHAVIOUR OF THE COCK-OF-THE-ROCK (AVES, RUPICOLA RUPICOLA). Bull. Am. Museum Nat. Hist. 124: 35-68. 1962. [From Ibis 105(2), 1963.] WR 111: 46

Graczyk, R. [THE URBANISATION OF THE PARTRIDGE PERDIX PERDIX (L.) IN POZNAN.] Przeglad Zoologiczny (Warsaw) 3(3): 194-196, 1 fig. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 46

A description is given of several nesting places of the partridge in the city area, as proof of the capacity for adaptation of this species to biotopes created by man.

Ivanov, V. G., and Zh. Kh. Baziev. [THE BIOLOGY OF TETRAOGALLUS CAUCASICUS PALL IN THE KABARDINO-BALKAR SSR.] Uch. Zap. Kabardino-Balkarsk. Univ. 10: 175-192. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 15I175. Transl. of Russian abstr.] WR 111: 46

Marchlewski, J. [PARTRIDGES (PERDIX PERDIX L.) IN THE VALLEY OF THE FIVE POLISH LAKES IN THE TATRA MOUNTAINS.] Acta Zoologica Cracoviensia (Cracow) 4 (5): 161-176. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English and Russian summ.] WR 111: 46

A description of the natural acclimatization of a flock of partridges in a mountain habitat not typical of that species. It was found that the specimens observed in 1952 were the progeny of birds observed in 1929, which is an indication of regular reproduction and maintenance of the flock.

Marchlewski, J. H. (Sch. Agr. Cracow, Cracow, Poland.) GLUSZEC, NOTATKI DO MONOGRAFII. [THE CAPERCAILLIE, MONOGRAPHICAL NOTES.] Studia Soc. Sci. Torunensis Sect. E. Zool. 6(3): 65-103. 1962. [From Biol. Abstr. 42(4), 1963. (In Polish) with English summ.] WR 111: 47

Nicolls, Ken E. INFLUENCES OF "GALLINACEOUS GUZZLERS" ON SELECTED CHUKAR PARTRIDGE POPULATION CHARACTERISTICS IN WESTERN COLORADO. M.S. thesis, Colo. State Univ. 198 p. 1961. WR 111: 47

Yurgenson, P. B. [ON THE PROBLEM OF STUDIES CONCERNING FLUCTUATIONS IN THE NUMBER OF HAZEL HENS (TETRASTES BONASIA).] Proc. 4th Baltic Ornithol. Conf. (Riga), 1960. p. 91-96. 1961. [From Ibis 105(1), 1963. In Russian.] WR 111: 47

DOVES AND PIGEONS

Chambers, Glenn D. (Mo. Conserv. Comm., Columbia.) CORN A STAPLE FOOD OF DOVES WINTERING IN NORTHERN MISSOURI. J. Wildl. Mgmt. 27(3): 486-488, 1 fig. July 1963. WR 111: 47

Corn occurred in 94.7% and comprised 94.1% of volume of food in 132 crops of mourning doves collected in Mo.--From abstr.

Davison, Verne E., and Edward G. Sullivan. (Soil Conserv. Serv., Athens, Ga.) MOURNING DOVES' SELECTION OF FOODS. J. Wildl. Mgmt. 27(3): 373-383. July 1963. WR 111: 47

Of more than 200 food items appraised, 64 are evaluated as choice, 20 as fair, and the others as uneaten or only tasted. The foods were provided separately and repeatedly, several at a time, in natural settings, to wild (unpenned) doves in Ga. and Miss. The doves were free to select among foods that were equally available. Taste--rather than color, shape, size, or surface texture--determined the doves' preferences. The doves did not learn to like any food that they at first found unattractive.--From abstr.

Goodwin, Derek. (40 Frankfurt Rd., London, S.E. 24, England.) THE SIGNIFICANCE OF SOME BEHAVIOUR PATTERNS OF PIGEONS. Bird Study 3(1): 25-37, 3 figs. Mar. 1956. WR 111: 47

Head-shaking results from mechanical irritation of the head and also as response to stimuli psychologically displeasing. Nodding is derived from nest-building movements and is shown when the bird intends to "hold its ground". It may be either hostile or appeasing in context. Displacement-preening occurs when the impulse to bill or copulate is frustrated and no tendency to attack or flee is present. Caressing occurs only between mates or young birds having a social bond. Driving occurs when rival males are near the female when she is sexually receptive and consists of the male driving his mate away from rivals.--From summ.

Goodwin, Derek. (40 Frankfurt Rd., London, S.E. 24, England.) NODDING, DRIVING AND CARESSING IN PIGEONS. Ibis 105(2): 263-266. Apr. 1963. WR 111: 47

This is a discussion of some points of disagreement in interpretation of pigeon behavior as earlier discussed by Goodwin [WR 111: 47] and "corrected" by Murton and Isaacson [WR 108: 75].

Hennessy, Thomas E., and Laurel Van Camp. (Ohio Div. Wildl., Akron.) WINTERING MOURNING DOVES IN NORTHERN OHIO. J. Wildl. Mgmt. 27(3): 367-373. July 1963. WR 111: 47

Abstract: Wintering flocks of mourning doves (Zenaidura macroura) were studied in two northern Ohio counties. Flocks formed in late Nov. or early Dec. Doves stayed in or near picked cornfields during daytime, feeding and loafing. Each flock preferred a particular cornfield. When snow covered their food, the doves resorted to farmsteads, feeding on stored and spilled grain. Night roosting was in evergreens, heavy brush, and on the ground.

Flocks ranged in size from 2 to more than 200 doves and were relatively stable in size; large flocks broke up in mild weather. Banding returns, statewide to 1960 and from 35 Ottawa County recoveries through 1961-62, indicated these doves were part of a nonmigratory or sedentary Ohio population. Movements of 30 recovered doves averaged 1.1 miles.

Strawinski, S. [OBSERVATIONS OF COLLARED TURTLE-DOVE STREPTOPELIA DECAOCTO (FRIV.) FROM 1951-1956.] Zeszyty Naukowe Uniwersytetu im. M. Kopernika, Torun, Matem.-Biol. Sciences 2: 145-154, 1 fig. 1958. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 48

This species forms a new component of the Polish fauna, exhibiting rapid expansion northwards and settling in areas near human habitations. The author described the behavior of a settled colony in the town of Torun. It was found that the numbers of the birds constantly increased, that they withstood the effects of frost well and nested 3 times a year. A description was given of the way in which they build nests and the materials they use for nests. In general, observations made over a period of 5 years indicated that this species had adapted itself well to its new conditions.

WATERFOWL

Abramov, V. I. [OBSERVATIONS OF WATER BIRDS OF THE LOWER OBI.] Ornitologiya 1959(2): 109-110. 1959. [From Biol. Abstr. 41(4), 1963, from Referat. Zhur., Biol., 1961, no. 1D623. Transl. of Russian abstr.] WR 111: 48

Water birds taken on the Obi river are classified into 6 groups by type of feed base and the nesting environment: reeds, shave grasses, sedge, canary grass, mixed grasses and osier. Ducks were most numerous in fescue reeds (up to one couple per 3 m^2). The feed base of the shave grass group and others was poorer. Anas acuta predominated, then A. penelope, Fuligula maris, A. crecca, etc. Several molting males of A. penelope were taken in nesting areas. Corvus cornix congregated in areas of duck concentration. Shells of 35 to 57 duck eggs were found in their nests.

Andrews, Ralph. (Box 477, Lafayette, La.) A STUDY OF WATERFOWL NESTING ON A LAKE ERIE MARSH. M.S. thesis, Ohio State Univ. 85 p. + 28 figs. 1962. WR 111: 48

Because of a widespread interest in the information contained in this thesis, it was reproduced and distributed by the Ohio Division of Wildlife. The thesis was presented in 1952. [Listed in WR 79: 45.]

Cavanagh, R. W. S., and A. G. Hall. MAKING PONDS FOR WILD DUCKS. New Zealand Dept. Internal Affairs, Wildl. Publ. no. 72. 32 p., illus. 1962. WR 111: 48

A well-illustrated booklet that presents helpful information on the need for preserving the remaining natural habitats for waterfowl, and factors that should be considered in the creation and improvement of ponds for these birds. Useful suggestions regarding the selection of pond sites, construction of dams and spillways, establishment of food and cover, and control of undesired plants are presented. No information on the frequent need for splash board or stop log types of water gates is given. These structures, which permit variation in water levels for the management of food and cover, are widely used in the United States.--F. M. Uhler.

Chute, H. L., and M. Gershman. (Univ. Maine, Orono.) CASE REPORT--SALMONELLA PULLORUM IN A MUSCOVY (CAIRINA MOSCHATA) DUCK. Avian Diseases 7(2): 168-169. May 1963. WR 111: 48

Cornwell, George. (Univ. Mich., Ann Arbor.) NEW WATERFOWL HOST RECORDS FOR SARCOCYSTIS RILEYI AND A REVIEW OF SARCOSPORIDIOSIS IN BIRDS. Avian Diseases 7(2): 212-216, 1 fig. May 1963. WR 111: 49

Summary: New hosts for S. rileyi are Aythya americana, A. valisineria and Bucephala clangula. The incidence of sarcosporidiosis in wild waterfowl is discussed, and a suggested explanation is set forth why the disease is observed only in adults. The life cycle, as presently understood, is briefly reviewed.

Davies, S. J. J. F. (Emmanuel Coll., Cambridge, England.) ASPECTS OF THE BEHAVIOUR OF THE MAGPIE GOOSE ANSERANAS SEMIPALMATA. Ibis 105(1): 76-98, 5 figs. Jan. 1963. WR 111: 49

The following topics are discussed: cleaning and feather settling, feeding actions, the alert posture, locomotory actions, fighting actions, the concert in adult birds, the uplift call, the following-response, significance of fighting, sex composition of goose flocks, stability of flocks, alarm response, and the response of geese to specific alarm stimuli.

Green, William E. WATERFOWL UTILIZATION AND HUNTING KILL 1946 THROUGH 1960 / UPPER MISSISSIPPI RIVER WILDLIFE AND FISH REFUGE AND MARK TWAIN NATIONAL WILDLIFE REFUGE. US F&WS, Spec. Sci. Rept.--Wildl. no. 71. iv + 62 p. May 1963. WR 111: 49

A 15-year study was made of hunter utilization of waterfowl on the Upper Mississippi River, of the effects of management practices, open and closed areas, seasons, and bag limits on waterfowl harvests. The survey covers 251,876 hunter trips, on which 283,763 ducks were taken for a daily average harvest of 1.12 ducks per day. Distribution of kill among hunters indicates that only 10.44% of the hunters checked succeeded in taking more than three ducks per day, while more than 45% failed to bag game on the day they were checked. Data also show how changing opening dates will have a bearing on the harvest of certain species.--From abstr.

Green, William E., Harvey K. Nelson, and Charles W. Lemke. (F&WS, Washington, D. C.) METHODS FOR DETERMINING CUMULATIVE GOOSE KILL ON SPECIAL AREAS. US F&WS, Spec. Sci. Rept.--Wildl. no. 72. 43 p., 4 figs. May 1963. WR 111: 49

A brief history is given of the growth of the Mississippi Valley population of Canada geese. Intensive kill surveys were conducted on managed hunting areas and near areas of goose concentrations, and suggestions were offered for application of survey methods to other areas. Close correlations between results obtained in the Area Ground Survey and in the Mailed Questionnaire were found for 1960 and 1961 data.

Hanson, Harold C. (Ill. Nat. Hist. Surv., Urbana.) THE DYNAMICS OF CONDITION FACTORS IN CANADA GEESE AND THEIR RELATION TO SEASONAL STRESSES. Arctic Inst. N. Am., Tech. Paper no. 12. 68 p., 12 figs., 7 pls. $1.00 to members, $2.00 to non-members. Dec. 1962. WR 111: 49

Body weights of adult Canada geese at or near the end of spring migration exceed that attained at any other period of the year, with the possible exception of the fall migration period. Minimum adult weights are attained in the non-flying stage of the molt. Yearling and incubating females lose weight soon after arrival on the breeding grounds. Gain and loss of fat is the chief cause of weight variation, but a goose in good condition has both fat and protein reserves. Maximum reserves of both fat and protein are carried during migration, and minimum reserves of both are carried during the molting period. The leg and breast muscles vary greatly in size in relation to activity periods, with changes being reciprocal. During the flightless period of the molt, leg muscles increase in size and breast muscles decrease; during the migration period breast muscles increase in size and leg muscles decrease. The study revealed that ♀♀ are stressed more than ♂♂, and it is postulated that the combined effects of the molt and the reproductive process may be the primary reason for fewer ♀♀ than ♂♂ in autumn waterfowl populations. It was found that body weights of wintering geese are directly affected by management

practices on refuges, food supplies, and the relative size of the wintering goose population. The use of pelleted domestic hays combined with corn and other cereals is suggested as a means of increasing output of food on refuges. Planting of sunflowers for geese is also recommended as a means for supplying sulfur amino acids needed for replacement of feathers lost after arrival on the wintering ground.--From summ.

Hartman, Fred E. (Maine Coop. Wildl. Res. Unit, Orono.) ESTUARINE WINTERING HABITAT FOR BLACK DUCKS. J. Wildl. Mgmt. 27(3): 339-347, 1 fig. July 1963. WR 111: 50

The food habits of black ducks (Anas rubripes) and the abundance and distribution of invertebrate food organisms were studied in the Penobscot Estuary, Maine, during the fall and winter of 1958-60 on mud flats and tidal marshes. Animal material, chiefly clams, constituted the bulk of the foods eaten. Other prominent animal items were snails and amphipods. Vegetable foods were more important in tidal-marsh habitat than on mud flats. Cordgrasses, primarily stems and leaves, were the principal vegetable food. A definite relationship existed between the availability of food organisms and the kinds of foods consumed by black ducks.--From abstr.

Isakov, Yu. A. [THE SUMMER MIGRATIONS OF DUCKS (THE PROBLEM OF THE NATURE OF INTERMEDIATE TRANSMIGRATIONS IN BIRDS).] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 305-310. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 17I165. Transl. of Russian abstr.] WR 111: 50

Comparison of the distribution of aggregates of ducks on molting areas in the last century and at present time indicates that the total area of the molting places and the abundance of birds in them has sharply decreased. In a number of regions of the European part of the Soviet Union ducks have almost completely stopped remaining to molt. This is explained by an increase in the number of hunters, non-observance of hunting seasons, and reduction in the total area of duck grounds, mainly because of the taking over of flood plains of large rivers and lake steppes. Waters suitable for molting are everywhere fewer in numbers than are nesting areas, and they disappear earlier than the latter. This causes transmigrations to molting places.

Iygi, A. I. [MIGRATION OF WATERFOWL AND THE WEATHER.] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 267-271. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 17I166. Transl. of Russian abstr.] WR 111: 50

Data are given on the relationship of the flight of auks and geese to temperature, wind, precipitation, moisture, fog, and storms in the strait of Suurvyain near Pukhtuska Ornithological Station (Estonia).

James, Pauline. (Pan Am. Coll., Edinburg, Tex.) FREEZE LOSS IN THE LEAST GREBE (PODICEPS DOMINICUS) IN LOWER RIO GRANDE DELTA OF TEXAS. Southwestern Naturalist 8(1): 45-46. 10 May 1963. WR 111: 50

It appeared that southern Texas lost 50-75 percent of its population of least grebes in Jan. 1962, when temperatures fell to 9°F. The birds, frozen in the ice, were eaten by predators.

Johnson, A. W. (Casilla 327, Santiago, Chile.) NOTES ON THE DISTRIBUTION, REPRODUCTION AND DISPLAY OF THE ANDEAN TORRENT DUCK MERGANETTA ARMATA. Ibis 105(1): 114-116. Jan. 1963. WR 111: 50

The nest was found in a kingfisher burrow more than 20 feet from the bottom of a cliff.

King, James G. (Clarence Rhode Natl. Wildl. Range, Bethel, Alaska.) DUCK BANDING IN ARCTIC ALASKA. J. Wildl. Mgmt. 27(3): 356-362, 2 figs. July 1963. WR 111: 51

Abstract: In the first 2 weeks of August, 1962, a small crew built a duck trap on Ohtig Lake, 40 miles east of Fort Yukon on the Arctic Circle, made one drive, and banded 5,050 ducks (10,000 flightless birds captured). This project, requiring 488 man-hours, was the culmination of 3 years' experimentation during which 22,297 ducks were banded. Small aircraft were used for transportation, and much of the equipment was designed specifically for an airborne, bush-type operation. Including only recoveries from previous years and newly banded ducks, 11.5 birds were handled per man-hour (10.4 new ducks), primarily lesser scaups (Aythya affinis) and other divers.

Klopman, Robert B. (Lab. Ornithol., Cornell Univ., Ithaca, N. Y.) SEXUAL BEHAVIOR IN THE CANADA GOOSE. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 123-129, 3 figs. 1962. WR 111: 51

This paper describes behavior associated with copulation of Canada geese.

Leus, S. I. [GENERAL CHARACTERIZATION OF THE MIGRATION OF WATERFOWL ON LAKE PSKOV IN THE FALL OF 1956, 1958, AND 1959.] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 207-213. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 17I164. Transl. of Russian abstr.] WR 111: 51

The fall flight occurred from mid-Sept. to mid-Nov. The extremely warm fall of 1958 resulted in a 100-fold decrease in the flight of waterfowl.--From abstr.

Locke, Louis N. (Patuxent Wildl. Res. Center, Laurel, Md.) MULTICENTRIC NEUROFIBROSARCOMA IN A CANADA GOOSE, BRANTA CANADENSIS. Avian Diseases 7(2): 196-202, 1 fig. May 1963. WR 111: 51

A case of a probable multicentric neurofibrosarcoma is reported from a wild-trapped female Canada goose captured on the Eastern Shore of Maryland.--From summ.

McAllister, Nancy M., and Robert W. Storer. (Univ. British Columbia, Vancouver, Canada.) COPULATION IN THE PIED-BILLED GREBE. Wilson Bull. 75(2): 168-173, 1 fig. June 1963. WR 111: 51

Unlike the Anatidae, grebes have no intromittent organ and copulate on land or the nesting platform, rather than on water. Reports of loons and grebes copulating on water will probably be proven erroneous when the courtship of these birds is adequately studied.

McFarland, Larry Z., Harry George, and Harold McKinnie. (Univ. Calif., Davis.) GRAIN PREFERENCE OF CAPTIVE WATERFOWL. Calif. Fish & Game 49(3): 207-209. July 1963. WR 111: 51

Twenty-seven captive ducks and geese provided grains ad libidum, preferred watergrass to all others tested. Their second choice was Purina hen chow, followed by sudan grass, reed canary grass, whole barley, alkali bulrush, and smartweed.--From summ.

Melzack, R. ON THE SURVIVAL OF MALLARD DUCKS AFTER "HABITUATION" TO THE HAWK-SHAPED FIGURE. Behaviour 17: 9-16. 1961. [From Ibis 105(1), 1963.] WR 111: 51

Ducklings continued to look at hawk models which had been repeatedly flown over them long after they had ceased to flee from the models.

Mierzwinski, W. [FLIGHTS OF GEESE NEAR THE LAKE OF SEVEN ISLETS.] Przeglad Zoologiczny (Warsaw) 3(2): 130-132. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 51

Includes data on the total numbers and numbers in individual flights of geese.

Mikhel'son, G. A. [WAYS OF INCREASING THE NUMBERS OF DUCKS IN A NUMBER OF LAKES IN THE LATVIAN SSR.] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 57-70. 1961. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1962, no. 17I186. Transl. of Russian abstr.] WR 111: 52

On Lake Engures (about 4430 hectares) in the spring of 1957, special rules were established: the mowing of hay and pasturing of cattle on the islands was ended, and fishing and boat riding were prohibited. An area of 1340 hectares was reserved. As a result, in 1958-1960 the number of duck nests increased not less than 6-9 times. Earlier, with open hunting, the ducks had forsaken the lake. Now up to 12,000 birds have gathered in the forest preserve. An analysis is presented of probable means of improving the nesting of ducks: cutting of trees and brush on the islands, mowing of reeds in strips after the time of seeding to prevent extensive overgrowth, the creation of artificial islands and regulation of water levels in the lake.

Murashka, I. P., and M. I. Balyus. [NATURAL REACCLIMATIZATION OF THE RED-NOSED SWAN IN LITHUANIA AND NEIGHBORING TERRITORIES.] In: (Ecology and migration of birds of the Baltic Regions.) Akad. Nauk Latviisk. SSR (Riga). p. 71-80. 1961. [From Biol. Abstr. 42(4), 1963, from Referat. Zhur., Biol., 1962, no. 17I187. Transl. of Russian abstr.] WR 111: 52

Data are presented on the changes in numbers of swans in Lithuania, and the numbers, sizes and weights of eggs. In 1960, there were about 100 nesting pairs.

Oko, Z. [GOLDEN-EYE--BUCEPHALA CLANGULA L. IN THE WIELKOPOLSKA REGION.] Przeglad Zoologiczny (Warsaw) 3(3): 190-193, 5 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 52

A description of a colony (numbers, behavior) of this species at Lake Grorzynskie.

Olney, P. J. S. (Wildfowl Trust, Slimbridge, Gloucestershire, England.) THE FOOD AND FEEDING HABITS OF TUFTED DUCK AYTHYA FULIGULA. Ibis 105(1): 55-62. Jan. 1963. WR 111: 52

Fifty-seven birds, collected from a gravel pit near London, had fed primarily on molluscs; 28 from Northern Ireland had a more varied diet, again mainly molluscs, but with some crustaceans, insects and plant seeds; 9 from a number of inland English areas had fed chiefly on crustaceans, also taking some molluscs, insects and plant seeds.--From summ.

Olney, P. J. S., and D. H. Mills. (Wildfowl Trust, Slimbridge, Gloucestershire, England.) THE FOOD AND FEEDING HABITS OF GOLDENEYE BUCEPHALA CLANGULA IN GREAT BRITAIN. Ibis 105(3): 293-300. July 1963. WR 111: 52

The goldeneye is primarily an animal feeder, but feeding habits vary with feeding areas. Fish normally form only a small part of the diet.--From summ.

Ryzhikov, K. M., and T. N. Timofeeva. [ON THE HELMINTHIC FAUNA OF WILD AND DOMESTIC WATER FOWL OF THE AMUR OBLAST.] Tr. Gel'mintol. Lab. Akad. Nauk SSSR 11: 213-222. 1961 (1962). [From Biol. Abstr. 42(6, pt. 1), 1963, from Referat. Zhur., Biol., 1962, no. 29K34. Transl. of Russian abstr.] WR 111: 52

Results of a study of helminths collected from 90 wild and 24 domestic birds in the Amur oblast showed 39 spp. of worms: 15 trematodes, 11 cestodes, 12 nematodes and 1 Acanthocephala sp.--From abstr.

Sapetin, Ya. V., and T. P. Shevareva. [THE DISTRIBUTION OF DUCKS AND BALD COOTS WHICH NEST IN THE USSR.] Ornitologiya (Moscow) 2: 271-275. 1959. [From Biol. Abstr. 42(1), 1963, from Referat. Zhur., Biol., 1961, no. 4D642. Transl. of Russian abstr.] WR 111: 52

On the basis of returned rings, 4 populations of river ducks were distinguished by their wintering places. Birds which nest in N part of European USSR winter at N European wintering places in England, Belgium, Holland,

Denmark, and northern France. Those nesting in S regions of USSR winter on shores of Black Sea (24%) and Mediterranean. Those nesting in N Caucasus, Dagestan, and Astrakhan oblast evidently winter near their nesting places. Birds from W Siberia and N Kazakhstan winter in all European wintering places; some fly SE to India and Pakistan. Southern wintering places must be protected as a part of protection of nesting places in W Siberia and Kazakhstan.--From abstr.

Siegfried, W. R. I-- EFFECTS OF STARVATION ON THREE SPECIES OF ANATIDAE--ALOPOCHEN AEGYPTIACUS (L.), ANAS UNDULATA DUBOIS AND ANAS SMITHI (HARTERT). Cape of Good Hope Dept. Nat. Conserv., Invest. Rept. no. 2. 1962. p. 1-7. 1962. WR 111: 53

"In a semi-arid country, such as ours, waterfowl habitat and natural foods do not occur in abundance and it is of considerable importance to the birds to be able to survive periods of temporary food shortage. Drainage and reclamation of habitat means that the birds, when on the move, have to undertake longer journeys without suitable resting and feeding grounds." All of the Egyptian geese (Alopochen aegyptiacus) and all of the yellowbill ducks (Anas undulata) survived until the 11th day of food deprivation, but the Cape shoveller (Anas smithi) showed a marked decline in alertness on the 5th day and started dying on the 7th.

Siegfried, W. R. II-- OBSERVATIONS ON THE POSTEMBRYONIC DEVELOPMENT OF THE EGYPTIAN GOOSE ALOPOCHEN AEGYPTIACUS (L.) AND THE REDBILL TEAL ANAS ERYTHRORHYNCHA GMELIN. Cape of Good Hope Dept. Nat. Conserv., Invest. Rept. no. 2. 1962. p. 8-17, 10 figs. 1962. WR 111: 53

Data are given on increase in body weight of captive hand-reared birds and on growth of the culmen, tarsus, wing and bill. Growth is complete at about 9 weeks of age.

Siegfried, W. R. III-- NESTING BEHAVIOUR OF THE REDBILL TEAL ANAS ERYTHRORHYNCHA GMELIN. Cape of Good Hope Dept. Nat. Conserv., Invest. Rept. no. 2. 1962. p. 18-24. 1962. WR 111: 53

Information on nesting was gathered through the use of an observation blind, automatic recording device installed at nests, nest traps, color-marking and general observations. Nest traps captured birds but usually caused nest desertion. The females did all of the incubating, normally taking rest periods twice daily, in the morning and late afternoon. The average duration of 39 inattentive periods was 1.5 hrs. Birds sometimes left their nests at night. The sitting position was changed at least every 30 minutes.

Stewart, Robert E. WATERFOWL POPULATIONS IN THE UPPER CHESAPEAKE REGION. US F&WS, Spec. Sci. Rept.--Wildl. no. 65. x + 208 p., 13 figs. + 4 folded maps. July 1962. WR 111: 53

Thirteen major types of waterfowl habitat are defined, and the annual and seasonal variations in their waterfowl populations are described. Local differences in waterfowl populations within the region proved to be closely correlated with local variations in the preponderance of the different habitats. Weather, pollution and turbidity of estuarine waters, and excessive human disturbance affect the distribution of waterfowl. The quality of waterfowl habitat in many areas has deteriorated greatly during recent years. Federal, state and private agencies have accelerated their conservation programs to preserve waterfowl habitats that remain. For the majority of waterfowl, widgeongrass ranks first and claspingleaf pondweed second as important waterfowl foods in the Upper Chesapeake region. A survey of banded waterfowl showed that the middle Atlantic states region is the principal harvest area, and greatest concentration of kill is in Maryland.--From auth. summ.

Storer, Robert W. (Univ. Mich., Ann Arbor.) OBSERVATIONS ON THE GREAT GREBE. Condor 65(4): 279-288, 3 figs. July-Aug. 1963. WR 111: 53

Social behavior of the great grebe (Podiceps major) in South America is compared with that of grebes elsewhere.

Thompson, Daniel Q., and Richard A. Person. (N. Y. Coop. Wildl. Res. Unit, Ithaca.) THE EIDER PASS AT POINT BARROW, ALASKA. J. Wildl. Mgmt. 27(3): 348-356, 2 figs. July 1963. WR 111: 54

Daily observations were made on king (Somateria spectabilis) and Pacific eiders (Somateria mollissima v. nigra) at Point Barrow, Alaska, 14 July-1 Sept. 1953. Mean flock size was 105 birds from a sample of 497 flocks. The flight was segregated as to sex and age. In the period 8-17 Aug., the king eider sex ratio shifted from a preponderance of males to a preponderance of females. The mean weight of 41 adult king eider males (1,668 grams) differed from the mean weight of 140 adult females (1,567 grams) at a high level of significance. Limited observations on molt phenology indicated a relatively high degree of synchronization of molt pattern within each sex. Molt of body plumage had reached the caudal tract in king eider males by 14 Aug.; females were not so far advanced. Peak eider flights tended to occur with favorable winds; however, the birds were not sensitive to wind velocities below 9 miles per hour. An average of 987 eiders per hour was recorded in 46 days of observation in 1953. The average number of hunters per hour was 4.1. In their average performance, these 4.1 hunters fired 11.5 shots, killed 3.5 eiders, and failed to recover 1.5 cripples per hour. Total mortality to southbound adult eiders from Point Barrow hunters was estimated to be 0.5 percent in 1953.--From abstr.

Tongeren, H. A. E. van. EXPERIMENTAL INFECTION OF COOTS (FULICA ATRA) WITH RUSSIAN SPRING SUMMER ENCEPHALITIS VIRUS. In: H. Libíková, editor. SYMPOSIUM OF THE CZECHOSLOVAK ACADEMY OF SCIENCES. BIOLOGY OF VIRUSES OF THE TICK-BORNE ENCEPHALITIS COMPLEX. II. 1960. Academic Press, Inc. (New York 3). p. 383-386, illus. 1962. [From Biol. Abstr. 42(6, pt. 1), 1963.] WR 111: 54

Trainer, Daniel O., and George W. Fischer. (Univ. Wis., Madison.) FATAL TREMATODIASIS OF COOTS. J. Wildl. Mgmt. 27(3): 483-486. July 1963. WR 111: 54

Abstract: Mortality of coots (Fulica americana) in Wis. was attributed to a species of trematode of the genus Sphaeridiotrema, presumably S. globulus. This fluke had not previously been incriminated as a mortality factor of coots. During a 2-year period, fatalities observed exceeded 700 birds. Mortality occurred primarily during the spring migration period, with limited mortality observed one fall. The cumulative effects of the trematode infestations and the stresses of migration and the prebreeding season resulted in the development of clinical disease and mortality.

Will, Theodore. (Chesapeake Biol. Lab., Solomons, Md.) EFFECTS OF A FOREIGN BODY ON THE WHISTLING SWAN, OLOR COLUMBIANUS. Chesapeake Sci. 4(2): 106. June 1963. WR 111: 54

Abstract: A mature female whistling swan was found in a weakened condition, breathing through an open wound produced by a fishhook and leader lodged in its esophagus. This foreign body was apparently swallowed while feeding on eel grass (Zostera marina).

CRANES, RAILS, SHOREBIRDS

Bub, Hans. PLANBERINGUNGEN AM SANDREGENPFEIFER (CHARADRIUS HIATICULA). [BANDING RESULTS ON THE RINGED PLOVER.] J. Ornithol. 103(2/3): 243-249. 1962. [From Biol. Abstr. 42(4), 1963.] WR 111: 54

During 1948-57 a small population (12 adults and 41 young) was banded at Wilhelmshaven. One pair returned to the same place 7 years and another 8 years. From 92 eggs 46 young hatched. One case of bigamy occurred. Dates of arrival and departure and also weights were noted.--Auth. summ.

Maxfield, Herbert K. ECOLOGICAL INVESTIGATIONS OF WOODCOCK SINGING SITES. M.S. thesis, Univ. Mass. 1961. WR 111: 54

Root, Alan. (P. O. Box 30001, Nairobi, Kenya, Africa.) NOTES ON FEEDING HABITS OF THE OPENBILL STORK ANASTOMUS LAMELLIGERUS. Ibis 105(3): 399. July 1963. WR 111: 55

Mussel shells were opened by repeatedly squeezing the shell until it opened. When squeezing did not cause the shell to open, the openbill would take the mussel to a "store" 2-40 yards from the water's edge and leave it, presumably to be weakened by the heat of the sun. Openbills occasionally visited the stores and tested various shells. Empty shells lay scattered around these stores, indicating that the system of forcing the shells to open was successful.

Soikkeli, Martti. POHJANLAHDEN STERNA ALBIFRONS--POPULAATIOSTA JA SEN MUUTONAIKAISESTA ESIINTYMISESTA SUOMEN LANSIRANNIKOLLA. [ON THE STERNA ALBIFRONS POPULATION IN THE GULF OF BOTHNIA AND ITS MIGRATION ALONG THE WEST COAST OF FINLAND.] Ornis Fennica 39(2): 60-67. 1962. [From Biol. Abstr. 42 (4), 1963. (In Finnish) with English summ.] WR 111: 55

Tinbergen, Niko. (Univ. Oxford, England.) THE SHELL MENACE / BEHAVIORAL ASPECT OF CAMOUFLAGE IS DEMONSTRATED BY GULLS. Nat. Hist. 72(7): 28-35, illus. Aug.-Sept. 1963. WR 111: 55

Describes the experimental methods used for studying the benefits of removal of egg shells from nests and the features used by the birds to determine that the shell is ready to be removed.

Young, E. C. (Univ. Canterbury, Christchurch, New Zealand.) THE BREEDING BEHAVIOUR OF THE SOUTH POLAR SKUA CATHARACTA MACCORMICKI. Ibis 105(2): 203-233, 13 figs. Apr. 1963. WR 111: 55

Eggs were laid in late Nov. and early Dec. and hatched after 28-29 days incubation. Fledging took 49 to 59 days. In connection with food shortages, most younger chicks were chased from nests by older chicks and later killed by cold or adult skuas. Only one pair raised two chicks to fledging. Nesting success of pairs averaged 23.2%, with the highest mortality occurring among birds outside of colonies.

Zlotorzycka, J. [MALLOPHAGA OF WILD AND CAPTIVE STORKS.] Acta Parasitologica Polonica (Warsaw) 7(8): 171-177. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 55

Ciconia ciconia L. and C. nigra have clearly defined groups of Mallophaga. The quantitative and qualitative poverty of Mallophaga on captive-bred C. ciconia, in comparison with wild birds, was established, and also the absence of symptoms indicating reciprocal infection of storks kept in captivity.

HAWKS AND OWLS

Borrero H., José Ignacio. (Univ. Nac. Colombia, Bogotá, Colombia.) NOTAS VARIAS SOBRE ASIO FLAMMEUS BOGOTENSIS EN COLOMBIA. [VARIOUS NOTES ON ASIO FLAMMEUS BOGOTENSIS IN COLOMBIA.] Rev. Biol. Trop. 10(1): 45-59. 1962. [From Biol. Abstr. 42(4), 1963. (In Spanish) with English summ.] WR 111: 55

The feeding habits, nesting, growth, plumage development, and behavior of the short-eared owl has been studied in the savannah of Bogotá.--C. R. Peebles.

Brodzikowska, K., and A. Haber. [RESULTS OF ANALYSES OF THE ALIMENTARY CANAL OF CERTAIN PREDATORY BIRDS.] Lowiec Polski (Warsaw) 8(1107): 6. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 55

A table of the contents of the alimentary canal is given for Accipiter gentilis, A. nisus, Buteo lagopus, Circus aeruginosus and Falco tinnunculus.

Haverschmidt, F. BEOBACHTUNGEN AN DER SCHLEIEREULE, TYTO ALBA, IN SURINAM. [OBSERVATIONS ON THE BARN OWL IN SURINAM.] J. Ornithol. 103(2/3): 236-242. 1962. [From Biol. Abstr. 42(4), 1963. (In German).] WR 111: 56

In Surinam the race T. a. hellmayri lives in level areas with scattered groups of trees. Nests have been found at all seasons and are built in buildings. The clutch varied from 2-7 in 7 nests. The food, as determined from pellets, was principally rodents (Zygodontomys and Holochilus) but included some frogs and bats.--D. E. Davis.

Husson, A. M. HET DETERMINEREN VAN SCHEDELRESTEN VAN ZOOGDIEREN IN BRAAKBALLEN VAN UILEN. [THE IDENTIFICATION OF SKULL REMAINS FROM PELLETS OF OWLS IN THE NETHERLANDS, BELGIUM AND LUXEMBURG.] Zool. Bijdragen, Rijksmus. Nat. Hist. Leiden 5: 1-63, 8 pls. 28 May 1962. [From J. Mammal. 44(2), 1963. In Dutch with English summ.] WR 111: 56

James, Pauline, and Allan Hayse. (Pan American Coll., Edinburg, Texas.) ELF OWL REDISCOVERED IN LOWER RIO GRANDE DELTA OF TEXAS. Wilson Bull. 75(2): 179-182. June 1963. WR 111: 56

After 69 years of possible absence, the elf owl was again found in the Brownsville, Texas, region.

Munoff, Joseph A. (S. Glen Falls, N. Y.) FOOD HABITS, GROWTH, AND MORTALITY IN NESTING MARSH HAWKS. Kingbird 13(2): 67-74, illus. May 1963. WR 111: 56

The female brought 24 animals to her young in 19 hours (19 meadow mice, 4 meadow jumping mice, and 1 passerine bird). Tables are given showing the rate of growth of the young in the 28 days they were in the nest. Five fledglings were produced from 28 eggs laid.

Nicholls, Thomas H. (3829 Council Crest, Madison 11, Wis.) FOOD HABITS OF THE LONG-EARED OWL. Passenger Pigeon 24(4): 130-133, illus. Winter 1962. WR 111: 56

Thirty-five long-eared owl pellets collected beneath a roost in the Univ. of Wis. Arboretum in Madison were made up of the remains of mammals as follows: meadow voles, 73.0%, deer mice, 14.3% and short-tailed shrews 12.7%.

Owen, D. F. (Univ. Mich., Ann Arbor.) POLYMORPHISM IN THE SCREECH OWL IN EASTERN NORTH AMERICA. Wilson Bull. 75(2): 183-190, 1 fig. June 1963. WR 111: 56

East of about 104°W., the screech owl occurs in two color phases, gray and rufous. The relative frequency of rufous birds varies geographically in the form of a cline from north to south. About one-fourth of the northern population is rufous, and up to three-fourths of the southern population is rufous. Screech owls intermediate in coloration between gray and rufous comprise about 10% of the population, except in Fla. and the adjacent Gulf coast where they comprise up to 40%.--From summ.

Peterson, Clell T. (Murray, Ky.) THE EAGLES OF HEMATITE LAKE. Ky. Warbler 39(3): 35-45, 1 fig. Aug. 1963. WR 111: 56

Contains observations on behavior of eagles at Kentucky Woodlands National Wildlife Refuge and results of 20 counts of eagles observed during 28 Oct. 1962 to 30 Mar. 1963.

Szczepski, J. [OUR PREDATORY BIRDS--THEIR ECONOMIC IMPORTANCE AND PROTECTION.] Lowiec Polski (Warsaw) 4(1079): 3-4. 1958. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish.] WR 111: 56

Includes information on the food of certain predators and comments on the economic usefulness of predatory birds.

Willis, Edwin O. (Museum Vertebrate Zool., Berkeley, Calif.) IS THE ZONE-TAILED HAWK A MIMIC OF THE TURKEY VULTURE? Condor 65(4): 313-317. July-Aug. 1963. WR 111: 57

The uncommon zone-tailed hawk (Buteo albonotatus) differs from related hawks and resembles the common turkey vulture (Cathartes aura) in color, shape, and manner of soaring. Prey animals may become accustomed to the repeated passing of the inoffensive vulture and be unfrightened when the hawk approaches, thus being easily caught by the hawk.--From summ.

BLACKBIRDS, STARLINGS, CROWS

Andrew, R. J. (Oxford Univ., England.) THE MOTIVATIONAL ORGANISATION CONTROLLING THE MOBBING CALLS OF THE BLACKBIRD (TURDUS MERULA). I. EFFECTS OF FLIGHT ON MOBBING CALLS. Behaviour 17: 224-246. 1961. [From Ibis 105(2), 1963.] WR 111: 57

Andrew, R. J. (Oxford Univ., England.) THE MOTIVATIONAL ORGANISATION CONTROLLING THE MOBBING CALLS OF THE BLACKBIRD (TURDUS MERULA). III. CHANGES IN THE INTENSITY OF MOBBING DUE TO CHANGES IN THE EFFECT OF THE OWL OR TO THE PROGRESSIVE WANING OF MOBBING. Behaviour 18: 25-44. 1961. [From Ibis 105 (2), 1963.] WR 111: 57

Andrew, R. J. (Oxford Univ., England.) THE MOTIVATIONAL ORGANISATION CONTROLLING THE MOBBING CALLS OF THE BLACKBIRD (TURDUS MERULA). IV. A GENERAL DISCUSSION OF THE CALLS OF THE BLACKBIRD AND CERTAIN OTHER PASSERINES. Behaviour 18: 161-176. 1961. [From Ibis 105(2), 1963.] WR 111: 57

Burgess, D. CARRION CROWS IN NORTHERN ENGLAND. Gt. Brit. Min. Agr. Fisheries & Food, Agr. 70(3): 126-129. Mar. 1963. [From Bibliog. Agr. 27(6), 1963.] WR 111: 57

Attacks on sheep.

Harrison, C. J. O. (British Museum, Cromwell Rd., London, S.W.7, England.) "OPEN-BILLED ALLOPREENING" BY ROTHSCHILD'S GRACKLE LEUCOPSAR ROTHSCHILDI. Ibis 105(1): 118-119. Jan. 1963. WR 111: 57

Preening with an open bill, as distinguished from pulling the feathers through the closed bill, may be elicited by a tactile or visual stimulus provided when the bill is inserted into anything. Allopreening is the preening of another individual.

Kuroda, N. [ONTOGENY OF BEHAVIOUR IN THE GREY STARLING.] Misc. Rept. Yamashina's Inst. Ornithol. Zool. 3: 83-112. 1961. [From Ibis 105(2), 1963. In Japanese with English summ.] WR 111: 57

"Based on observations of a hand-reared Grey Starling Sturnus cineraceus chick, the development of more than 60 different activities under 7 major categories, feeding behaviour, locomotor behaviour, vocalization, etc. are described. The observed facts are interpreted according to Kortlandt's theory of ontogenetic integration of instinctive behaviour."

Meanley, Brooke, and John S. Webb. (Patuxent Wildl. Res. Center, Laurel, Md.) NESTING ECOLOGY AND REPRODUCTIVE RATE OF THE RED-WINGED BLACKBIRD IN TIDAL MARSHES OF THE UPPER CHESAPEAKE BAY REGION. Chesapeake Sci. 4(2): 90-100, 10 figs. June 1963. WR 111: 57

The average clutch size for 537 clutches was 3.3 eggs, with a range of 2 to 5 eggs. The ratio of territorial males to nesting females was 1:1.9. There was direct evidence of double broods by four females. The average number of young produced was 4.2 per breeding female or 8.1 per breeding male. Nesting success for the total of 675 active nests was 57%, with a range from 38% to 69% in the colonies. Robust plants that held constant form throughout the nesting season supported 95% of the nests, and the success of these nests was 58%; in contrast, non-robust plants supported only 5% of the nests, and success

of this group of nests was only 26%. Nesting success varied with height from ground: 45% for nests less than 2 feet from the ground, 55% for those 2 to 4 feet, and 62% for those more than 4 feet.--From abstr.

Scott, D. M. (Univ. Western Ontario, London, Ontario, Canada.) CHANGES IN THE REPRODUCTIVE ACTIVITY OF THE BROWN-HEADED COWBIRD WITHIN THE BREEDING SEASON. Wilson Bull. 75(2): 123-129, 1 fig. June 1963. WR 111: 58

Summary: The breeding season of the cowbird extends from late April to late July. Within this period maximum reproductive activity of female cowbirds is maintained over approximately an eight-week period in May and June. Parasitism on the cardinal is discussed relative to changes in the laying activity of the cowbird.

Siegfried, W. R. A PRELIMINARY EVALUATION OF THE ECONOMIC STATUS OF CORVIDAE AND THEIR CONTROL ON SHEEP FARMS IN THE GREAT KAROO. Cape of Good Hope, Dept. Nature Conserv., Invest. Rept. no. 4. 16 p., 3 figs. 1963. WR 111: 58

Damage to sheep usually occurs only when the animals are diseased or disabled. Damage during the lambing period can be minimized by keeping animals in good health and within fenced enclosures. Crow damage to sheep is local, and control should be conducted only as needed locally.

Wiens, John A. (Univ. Wis., Madison 6.) ASPECTS OF COWBIRD PARASITISM IN SOUTHERN OKLAHOMA. Wilson Bull. 75(2): 130-139, 2 figs. June 1963. WR 111: 58

Parasitism was noted at 31 of 84 nests (36.9%). Thirty-seven cowbird eggs and 73 host eggs in parasitized nests produced 9 (24.3%) and 14 (19.2%) young, respectively. Twenty-five young fledged from 69 (36.2%) eggs laid in non-parasitized nests of the same species. Cowbird-host laying periods were usually coincident, but one cowbird egg was apparently laid in a partially destroyed nest, and another was laid in a nest containing a well-developed cowbird nestling.--From summ.

Young, Howard. (Wis. State Coll., La Crosse.) BREEDING SUCCESS OF THE COWBIRD. Wilson Bull. 75(2): 115-122. June 1963. WR 111: 58

From 879 cowbird eggs in nests of 36 host species, 218 fledglings were produced. The fledgling rate for eggs laid in nests of heavily parasitized species was 25%, and in those of lightly parasitized species it was 16%. There were approximately 6 young produced/adult female cowbird/season. The bibliography contains 35 titles.

OTHER BIRDS

Brown, R. G. B. (Univ. Museum, Oxford, England.) THE BEHAVIOUR OF THE WILLOW WARBLER PHYLLOSCOPUS TROCHILUS IN CONTINUOUS DAYLIGHT. Ibis 105(1): 63-75, 4 figs. Jan. 1963. WR 111: 58

The influence of environmental variables on the daily starts of singing at two latitudes (51° 46' N and 69° 42' N) is considered. It is concluded that singing starts at the more southern location when light intensity has risen above a certain threshold level and at the more northern location when light intensity has reached a minimum level or has started to rise again.

Collins, Charles T. (Univ. Fla., Gainesville.) THE "DOWNY" NESTLING PLUMAGE OF SWIFTS OF THE GENUS CYPSELOIDES. Condor 65(4): 324-328, 3 figs. July-Aug. 1963. WR 111: 58

The semiplume covering of nestling swifts of the genus Cypseloides may aid in temperature regulation, enabling the birds to withstand the rigorous conditions present at the nest site.--From summ.

Crook, John Hurrell. (Univ. Bristol, Bristol, England.) A COMPARATIVE ANALYSIS OF NEST STRUCTURE IN THE WEAVER BIRDS (PLOCEINAE). Ibis 105(2): 238-262, 12 figs. Apr. 1963. WR 111: 58

The survival values of nest characteristics are analysed in relation to weather, predation and inter-individual competition for materials.--From summ.

Goldsmith, R. (Natl. Inst. Med. Res., London, England.) REPRODUCTIVE BEHAVIOUR AND ADAPTATION IN THE ADELIE PENGUIN (PYGOSCELIS ADELIAE). In: PROCEEDINGS OF THE SOCIETY FOR THE STUDY OF FERTILITY, 1962. J. Reproduct. & Fertility 4(2): 237-238. 1962. [From Biol. Abstr. 42(5), 1963.] WR 111: 59

Abstract: There is evidence of population pressure as birds occupy almost every available spot of the rookery. It appears that physiological adaptation to cold of the newly hatched chicks is poor and would lead to high mortality, especially in unfavorable weather.

Graczyk, R. [OBSERVATIONS ON COLLECTIVE NIGHT LODGINGS OF PASSER DOMESTICUS L.] Prz. Zool. 5: 241-245. 1961. [From Ibis 105(2), 1963. In Polish with English summ.] WR 111: 59

It is "concluded that collective lodging at night is not evoked by any environmental factor, but is of a sociological, behavioristic nature."

Jozefik, M. [MODIFICATIONS TO THE SOUTH-WESTERN LIMIT OF THE RANGE OF ERYTHRINA ERYTHRINA ERYTHRINA (PALL.) OVER THE LAST TWO CENTURIES.] Acta Theriologica (Bialowieza) 5(11): 307-324, 1 fig. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English and Russian summ.] WR 111: 59

On the basis of a curve of frequency of observations of E. erythrina during 1780-1958 the continued expansion of the range of this species within the last 30 years was established. The causes of migrations were examined. Attention was drawn to over-crowding within the original range and to the lack in the ornithofauna of northern Europe of species ecologically close to it; both these factors probably act as stimuli to the migrations of this species.

Lacki, A. [RESULTS OF INVESTIGATIONS OF THE COMPOSITION OF FOOD EATEN BY HOUSE SPARROW NESTLINGS.] Biuletyn Instytutu Ochrony Roslin (Poznan) 5: 239-249. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English and Russian summ.] WR 111: 59

The method consisting of ligating the lower part of the esophagus was used. The ratio of animal to plant food was established, and the development of the nestlings was related to the kind of food eaten. The influence of sources of food near the nest on the composition of the nestling's food was determined, as was the species composition of beetles in the food, and the ratio of pest insects to the whole number of insects swallowed.

Mayfield, Harold F. (R.F.D., Waterville, Ohio.) ESTABLISHMENT OF PRESERVES FOR THE KIRTLAND'S WARBLER IN THE STATE AND NATIONAL FORESTS OF MICHIGAN. Wilson Bull. 75(2): 216-220, 1 fig. June 1963. WR 111: 59

The history of the development of Kirtland's warbler preserves is recounted. One problem yet unsolved in management of the preserves is control of the brown-headed cowbird which takes a heavy toll from the warbler through loss of eggs removed by the cowbird, through lowered hatching success and through lowered survival of warbler nestlings.

Nisbet, I. C. T. AMERICAN PASSERINES IN WESTERN EUROPE, 1951-62. British Birds 56(6): 204-217. June 1963. WR 111: 59

Records of 24 American passerines occurring in Great Britain are discussed in relation to their migration in North America. Autumn and winter records are grouped together and discussed separately from spring records. A comparison is made of old European records and those from recent years.--W. T. Van Velzen.

Phillips, J. H. THE DISTRIBUTION OF THE SOOTY SHEARWATER AROUND THE BRITISH ISLES. British Birds 56(6): 197-203, 1 fig. June 1963. WR 111: 59

Monthly distribution records for Procellaria grisea are discussed and mapped. This shearwater was found to be a regular autumn visitor to the British Isles.--W. T. Van Velzen.

Phillips, J. H. (Christ's College, Cambridge, England.) THE PELAGIC DISTRIBUTION OF THE SOOTY SHEARWATER PROCELLARIA GRISEA. Ibis 105(3): 340-353, 7 figs. July 1963. WR 111: 60

Most sooty shearwaters spend the southern winter in the Pacific Ocean, birds from the New Zealand area near Japan, and those from Cape Horn colonies off the western coast of North America. Some birds are present all year off of the coast of southern Africa. Most sooty shearwaters in the northern Atlantic Ocean cross the ocean from west to east in June and July, and from east to west farther south in about Sept.--From summ.

Radtke, Robert, and John Byelich. (U. S. Forest Serv., Milwaukee, Wis.) KIRTLAND'S WARBLER MANAGEMENT. Wilson Bull. 75(2): 208-215, 4 figs. June 1963. WR 111: 60

In order to insure the continued survival of the rare Kirtland's warbler, the Mich. Dept. Conserv. and the U. S. Forest Serv. have established areas for management of the species. A total of 11,690 acres will be managed by use of special planting techniques and controlled burning.

Rees, E. I. S. (Fisheries Res. Board Canada, St. John's, Newfoundland.) MARINE BIRDS IN THE GULF OF ST. LAWRENCE AND STRAIT OF BELLE ISLE DURING NOVEMBER. Canadian Field-Nat. 77(2): 98-107, 2 figs. Apr.-June 1963. WR 111: 60

An annotated list of 12 species.

Reynard, George B. (105 Midway, Riverton, N. J.) THE REDISCOVERY OF THE PUERTO RICAN WHIP-POOR-WILL. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 51-60, 4 figs. 1962. WR 111: 60

The Puerto Rican whip-poor-will (Caprimulgus noctitherus) was thought to be extinct, but it was rediscovered through the use of sound recordings.

Robert, A. [THE PARASITES AND COMMENSALS IN THE NESTS OF THE WHITE-BREASTED SWALLOW, PETROCHELIDON PYRRHONOTA, AT LAKE MONROE, MONT TREMBLANT PARK.] Ent. Soc. Quebec Ann. 7: 87-92. 1962. [From Bibliog. Agr. 27(6), 1963. In French.] WR 111: 60

"Insects and mites".

Rowley, J. Stuart. (San Mateo, Calif.) NOTES ON THE LIFE HISTORY OF THE PILEATED FLYCATCHER. Condor 65(4): 318-323, 2 figs. July-Aug. 1963. WR 111: 60

The incubation period is about 12 days, and the young leave the nest 14 days after hatching. Nests were sometimes attached to dead and brittle branches, and nest loss was high. High predation, the toll taken by flies, and small clutch sizes result in low production of this scarce bird.--From summ.

Skutch, Alexander F. (El Quizarrá, San Isidro del General, Costa Rica.) LIFE HISTORY OF THE RUFOUS-TAILED JACAMAR GALBULA RUFICAUDA IN COSTA RICA. Ibis 105(3): 354-368. July 1963. WR 111: 60

Smith, Robert Leo. (W. Va. Univ., Morgantown.) SOME ECOLOGICAL NOTES ON THE GRASSHOPPER SPARROW. Wilson Bull. 75(2): 159-165, 1 fig. June 1963. WR 111: 60

In addition to ecological notes, this article contains information on breeding biology and behavior of the species, based on observations made in Pa.

Stein, Robert C. (Lab. Ornithol., Cornell Univ., Ithaca, N. Y.) A COMPARATIVE STUDY OF SONGS RECORDED FROM FIVE CLOSELY RELATED WARBLERS. The Living Bird / First Annual of the Cornell Laboratory of Ornithology / 1962. p. 61-71, 7 figs. 1962. WR 111: 60

Song patterns of five species of warblers (black-throated green, Townsend's, hermit, black-throated gray, and golden-cheeked) show relationships parallel to those suggested by plumages. The black-throated gray warbler is more

closely related to the Townsend's than to the other three. The Townsend's is the western counterpart of the black-throated green, the hermit is the far western counterpart of the golden-cheeked.

Witkowski, I. [THE NESTING OF BULLFINCH--PYRRHULA PYRRHULA (L.) IN SILESIA.] Przeglad Zoologiczny (Warsaw) 3(4): 282-284, 1 fig. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 61
A description of the habitats in which this species nests.

Yezerskas, L. I. [ON THE BIOLOGY OF HOLE-NESTING BIRDS AT THE TIT (PARIDAE) AND FLYCATCHER (MUSCICAPIDAE) FAMILIES IN THE LITHUANIAN SSR.] Proc. 4th Baltic Ornithol. Conf. (Riga), 1960. p. 115-122. 1961. [From Ibis 105(1), 1963. In Russian.] WR 111: 61

REPTILES AND AMPHIBIANS

Asplund, Kenneth K. (Univ. Ariz., Tucson.) ECOLOGICAL FACTORS IN THE DISTRIBUTION OF THAMNOPHIS BRACHYSTOMA (COPE). Herpetologica 19(2): 128-132. 3 July 1963. WR 111: 61
Twenty-seven of 49 garter snakes contained food, consisting only of earthworms. In spite of the exclusive earthworm diet, the author found no evidence that the distribution of this species is restricted by edaphic factors. Of the factors investigated, thermal activity levels were thought to have the greatest influence on distribution. This species appears to be active at relatively cool temperatures--an adaptation to a cool climate.

Bleakney, J. Sherman. (Nova Scotia Museum Sci., Halifax.) NOTES ON THE DISTRIBUTION AND LIFE HISTORIES OF TURTLES IN NOVA SCOTIA. Canadian Field-Nat. 77(2): 67-76, 1 fig. Apr.-June 1963. WR 111: 61
New data have been gathered on Clemmys insculpta, Chrysemys picta, Chelydra serpentina and Emydoidea blandingi in Nova Scotia. Clemmys is more common where the other three species are rare, and it could not be found in southern Nova Scotia where the others are most common. Stomach analysis showed aquatic insects and snails as major food items. Evidence for overwintering of the eggs of Chrysemys and Chelydra is given. The incubation of a Chrysemys and an Emydoidea nest were observed under identical conditions and the hatchlings emerged in 277 days and 88 days, respectively, indicating a faster embryonic developmental rate in the larger Emydoidea eggs.--From summ.

Bogdanov, O. P. [DENSITY OF THE LIZARD POPULATION IN VARIOUS SEGMENTS OF ITS RANGE.] In: (Geography of the land animal population and methods of investigating it.) Akad. Nauk SSSR (Moscow). p. 287-292. 1959. [From Biol. Abstr. 42(5), 1963, from Referat. Zhur., Biol., 1961, no. 1D560. Transl. of Russian abstr.] WR 111: 61

Brattstrom, Bayard H. (Orange State Coll., Fullerton, Calif.) A PRELIMINARY REVIEW OF THE THERMAL REQUIREMENTS OF AMPHIBIANS. Ecology 44(2): 238-255, 17 figs. Spring 1963. WR 111: 61
Body temperatures of active salamanders ranged from -2 to 26.7°C. Terrestrial salamanders were usually the same temperature as their substrata when found beneath objects. They were sometimes as cold or colder than adjacent air when not beneath objects. Basking anurans sometimes had body temperatures far above ambient temperatures. Some evaporative cooling in amphibians was observed. With more than 70 references.

Caldwell, David K. (Los Angeles County Museum, Los Angeles, Calif.) THE SEA TURTLE FISHERY OF BAJA CALIFORNIA, MEXICO. Calif. Fish & Game 49(3): 140-151, 9 figs. July 1963. WR 111: 61
Turtles are often the sole source of income in villages of the area, but no serious attempt has been made to study the harvest or to apply management practices. Present conditions do not justify restrictions on the number of

free-swimming turtles harvested. When the nesting grounds are discovered, immediate steps should be taken to prevent harvest of nesting ?? or eggs. The green turtle (Chelonia mydas carrinegra) is the chief species harvested.

Haber, A. [THE INFLUENCE OF ARSENIC COMPOUNDS OF CALCIUM ON FOREST AMPHIBIA.] Prace Instytutu Badawczego Lesnictwa (Warsaw) 188: 3-18, 2 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English and Russian summ.] WR 111: 62

Observations were made on the influence of arsenic compounds of calcium on amphibians in forest stands. Comparative observations were made of the activity of amphibians in sprayed and unsprayed areas. Chemical analyses were also made of dead animals to determine the arsenic contents of the animals.

Hammen, Carl S., and Victor H. Hutchison. (Adelphi Coll., Garden City, N. Y.) CARBON DIOXIDE ASSIMILATION IN THE SYMBIOSIS OF THE SALAMANDER AMBYSTOMA MACULATUM AND THE ALGA OOPHILA AMBLYSTOMATIS. Life Sciences no. 10, p. 527-532. 1962. WR 111: 62

Eggs of Ambystoma maculatum have a symbiotic relation with the alga, Oophila amblystomatis. Experiments indicate the facultative mutualism is not simply one of photosynthetic carbon dioxide fixation by the alga with subsequent transport of carbohydrate to the embryo but that some growth factor is produced by the alga in relatively small concentrations.

Jorgensen, Clive D., and Wilmer W. Tanner. (Brigham Young Univ., Provo, Utah.) THE APPLICATION OF THE DENSITY PROBABILITY FUNCTION TO DETERMINE THE HOME RANGES OF UTA STANSBURIANA STANSBURIANA AND CNEMIDOPHORUS TIGRIS TIGRIS. Herpetologica 19(2): 105-115, 2 figs. 3 July 1963. WR 111: 62

The minimum polygon and density probability function methods were used to study home range data from 2 species of lizards. The probability function method gave results closer to those expected from field observation than the minimum polygon method.--From summ.

Korschgen, Leroy J., and Thomas S. Baskett. (Mo. Conserv. Comm., Columbia.) FOODS OF IMPOUNDMENT- AND STREAM-DWELLING BULLFROGS IN MISSOURI. Herpetologica 19(2): 89-99, 2 figs. 3 July 1963. WR 111: 62

Principal foods included crayfish, insects, mice, frogs, tadpoles, snakes, turtles, fish and spiders. General feeding patterns were similar among frogs in impoundments, rivers, and farm ponds. Crayfish were a major item of food in all habitats during June.--From summ.

MacMahon, James A. (Univ. Notre Dame, Ind.) NOTES ON SOME OHIO LIZARDS. Ohio J. Sci. 62(1): 35-38. 1962. [From Biol. Abstr. 41(4), 1963.] WR 111: 62

McAlister, Wayne H. (Univ. Chicago, Chicago 37, Ill.) EVIDENCE OF MILD TOXICITY IN THE SALIVA OF THE HOGNOSE SNAKE (HETERODON). Herpetologica 19(2): 132-137, 1 fig. 3 July 1963. WR 111: 62

A salivary preparation was injected into the thighs of assay animals. Fifteen of 17 anurans were killed within 39 hours. Eleven mice which received the salivary preparation remained normal in behavior and appearance.

Myers, Charles W., and W. D. Klimstra. (Southern Ill. Univ., Carbondale.) AMPHIBIANS AND REPTILES OF AN ECOLOGICALLY DISTURBED (STRIP-MINED) AREA IN SOUTHERN ILLINOIS. Am. Midland Nat. 70(1): 126-132, 2 figs. July 1963. WR 111: 62

Most local species of amphibians and reptiles were found on areas which had been strip-mined for coal 19-29 years earlier. Box turtles, however, were common in the general area but appeared unable to invade the strip-lands.--From abstr.

Poynton, J. C. (Dept. Zool., Univ. Natal, Pietermaritzburg, Natal, Union South Africa.) PATTERNS IN THE DISTRIBUTION OF THE SOUTHERN AFRICAN AMPHIBIA. Ann. Cape Provincial Museums 2: 252-272, 18 figs. 1962. WR 111: 63
Six basic distribution patterns shown by the amphibia of southern Africa are discussed with the intention of inviting comparisons from workers on the distribution of other groups. Distribution maps are included for selected species.--W. T. Van Velzen.

Puckette, B. Gail, and Hobart M. Smith. (Univ. Ill., Urbana.) A LONGEVITY RECORD FOR ANOLIS EQUESTRIS. Herpetologica 19(2): 138. July 1963. WR 111: 63
A ♂ of this lizard was kept in captivity 6 years and 3 months and a ♀ was kept about 5 years.

Taborski, A. [REMARKS ON ELAPHE LONGISSIMA LONGISSIMA LAUR. 1768 AND ITS DISTRIBUTION IN POLAND.] Przeglad Zoologiczny (Warsaw) 3(3): 188-189, 2 figs. 1959. [From Polish Ecological Bibliog. for 1959. Dec. 1962. In Polish with English summ.] WR 111: 63
A description of the habitat of this species and remarks on its spread over the area of the Bieszczady Mountains.

Turner, Frederick B. (Univ. Calif., Los Angeles.) THE DEMOGRAPHY OF FROGS AND TOADS. Quart. Rev. Biol. 37(4): 303-314. Dec. 1962. WR 111: 63
Abstract: Quantitative studies of natality, mortality, and age-distributions of anuran populations are reviewed. Specific problems involve estimates of (1) the age of individuals, (2) age-specific fertility, (3) natality of populations, (4) larval survival, and (5) age-specific post-metamorphic survival. Some possible differences in the comparative demography of north temperate and neotropical anurans are suggested.

Vinson, S. Bradleigh, Claude E. Boyd, and Denzel E. Ferguson. (Miss. State Univ., State College.) ALDRIN TOXICITY AND POSSIBLE CROSS-RESISTANCE IN CRICKET FROGS. Herpetologica 19(2): 77-80, 1 fig. 3 July 1963. WR 111: 63
Data indicate resistance to aldrin in frogs from areas having past treatment with insecticides. Frogs displaying the strongest degree of resistance have had no previous contact with aldrin, and cross-resistance is assumed to have evolved from selective mortality caused by either DDT, toxaphene, methyl parathion, endrin or some combination of these.--From summ.

Whitford, Walter G., and Victor H. Hutchison. (Univ. R. I., Kingston.) CUTANEOUS AND PULMONARY GAS EXCHANGE IN THE SPOTTED SALAMANDER, AMBYSTOMA MACULATUM. Biol. Bull. 124(3): 344-354, 7 figs. June 1963. WR 111: 63
The skin accounts for more than 50% of the total oxygen uptake at 15°C. and below. Approximately 80% of the carbon dioxide produced is released through the skin at all temperatures except 5°C., where no measureable amount of carbon dioxide is released through the lungs and buccopharyngeal mucosa.--From summ.

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Erratum. In the review of Cummings--PESTICIDES IN VERTEBRATE PEST CONTROL [WR 110: 6], the amounts expressed are for baits treated by the respective chemicals. It should read: "In 1961, a total of 120,000 pounds of bait treated with strychnine, 400,000 pounds of bait treated with sodium fluoroacetate and 100,000 pounds of miscellaneous rodenticide baits were used in Calif. for vertebrate pest control. New research is being initiated on control of starlings in Calif."

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